



SCIENCE AND TECHNOLOGY ORGANIZATION
SYSTEM ANALYSIS & STUDIES PANEL



SYSTEM ANALYSIS & STUDIES (SAS) PANEL

CALL FOR PAPERS

SAS-192 Research Symposium titled

“18th NATO Operations Research and Analysis (OR&A) Conference 2024”

This event is open to representatives from NATO nations, NATO bodies/agencies, STO Enhanced Opportunity Partners (Australia, Japan), Austria, Ireland, New Zealand and Switzerland.

To be held in

Málaga, Spain

04-06 November 2024

DEADLINE FOR RECEIPT OF ABSTRACTS:

19 April 2024

SYMPOSIUM INFORMATION

A. BACKGROUND AND MILITARY RELEVANCE

The NATO Operations Research and Analysis Conference is a venue for sharing ideas, best practices and innovative applications of OR&A amongst NATO Nations and NATO organizations. It brings experts from the NATO OR&A community together to share best practices in analysis. The conference is sponsored jointly by Headquarters Supreme Allied Commander Transformation (HQ SACT) and the NATO Science & Technology Organization (STO),

Operations Research and Analysis provides evidence-based support to decision-makers through the application of scientific methods. In NATO it includes, inter alia, strategic analysis to support policy decision making, operational analysis for military planning, exercises and operations, quantitative analysis (e.g. modelling and simulation) and qualitative analysis (e.g. problem structuring or wargaming). The annual conference serves as an integral component to the continuous development of the NATO Operations Research and Analysis (OR&A) community of interest. It assembles esteemed members of the profession from numerous organizations, including NATO commands and agencies, national defence analysis and research organizations, centres of excellence, academia, and industry.

B. CONFERENCE AIM AND OBJECTIVES

The goal of the NATO OR&A Conference is to provide an exciting programme relevant to OR&A, with plenty of opportunities for discussion and debate and provision of valuable and relevant training opportunities. It highlights the cohesion of the NATO OR&A community of interest and supports its continuous development.

The theme of the 2024 conference is: **“Collaboration to enable military advantage in an unstable world”**. NATO’s strength is our unity, and cooperating on defence and security related concerns is a continuous process in order to solve problems, build trust, and ultimately prevent conflict. Our rules-based international order is under constant pressure, and alliance members may develop technologically and militarily at different speeds, causing issues in understanding and interoperability. This can be mitigated through effective collaboration. Therefore the OR&A conference is seeking presentations and papers that highlight best practices in international collaborative analytical projects, or presentations that offer analytical methods that can be adapted by various organizations in different countries.

C. TOPICS OF INTEREST

OR&A methods applied in collaborative projects and/or with applicability to other Nations or organizations: Strategic Analysis; Problem Structuring; Decision Analysis; Modelling & Simulation; Operations Assessment; Artificial Intelligence; Machine Learning; Big Data; Advanced Analytics; Wargaming. We also welcome topics posing a problem or issue for debate within the NATO analytical community.

D. ABSTRACT SUBMISSION

Authors that are interested in the conference will typically be offered one of the following opportunities to share their work:

- 20 minute presentation;
- 20 min presentation with associated paper, to be published in the conference proceedings;
- 20 min presentation with associated full journal paper. The journal paper will be submitted to the [STO Review Journal](#) editorial team for consideration;
- Longer tutorial or panel session (e.g. 90 mins) on a topic of educational value to the conference attendees.

Interested candidates are invited to submit an abstract (between 150 to 250 words) for consideration by **19 April 2024**, using the abstract submission tool on the STO Events meeting announcement [[link](#)]. Any questions related to the selection process can be addressed to the Programme Committee at sas@csso.nato.int.

The selection of abstracts will be based on the following evaluation criteria:

1. Relation to symposium theme
2. Clarity and readability
3. Argumentation
4. Technical quality
5. Novelty of contribution
6. Military relevance
7. Conclusion

Authors will be notified of the Programme Committee decision by **31 May 2024**.

E. AUTHOR INSTRUCTIONS

Detailed instructions will be provided by email by the Programme Committee to the selected authors. Both the conference proceedings paper (up to 8 pages) and the full journal paper (up to 18 pages) will be peer-reviewed. All papers must use the templates provided by email once an abstract has been selected. Submissions to the STO Review journal need to be at public releasable level and submissions to the NATO OR&A conference can either be public releasable or limited distribution (marked NATO UNCLASSIFIED, Releasable to AUS, AUT, CHE, IRL, JPN, NZL). Papers that do not follow the prescribed format or that do not achieve an acceptable standard for grammar and spelling will be returned without review. Submissions of written conference proceedings or full papers are not mandatory but are highly encouraged.

F. PUBLICATION RELEASE AUTHORITY

To allow publication of the material of selected authors, the STO will require a signed Publication Release Form (via the publication consent form - STO form 13E). For all, except US authors, the material and form 13(E) should be provided to the Programme Committee (sas@csso.nato.int) countersigned by the appropriate authority.

For individuals affiliated with a US organization, their organization signs off on the security review through an internal form or an email from the appropriate authority (Foreign Disclosure Office, Legal Office or similar). The material, STO form 13(E) and internal security review confirmation should be provided to the US National Coordinator's office for countersignature (osd.pentagon.ousd-atl.mbx.usnatcor@mail.mil).

G. PRELIMINARY SCHEDULE

- Abstract submission deadline: 19 April 2024
- Abstracts acceptance notification: 31 May 2024
- Opening registration: 15 July 2024
- Paper submission deadline: 16 August 2024
- Presentation submission deadline: 18 October 2024
- Closing registration: 21 October 2024

THE NATO SCIENCE AND TECHNOLOGY ORGANIZATION

Science & Technology (S&T) in the NATO context is defined as the selective and rigorous generation and application of state-of-the-art, validated knowledge for defence and security purposes. S&T activities embrace scientific research, technology development, transition, application and field-testing, experimentation and a range of related scientific activities that include systems engineering, operational research and analysis, synthesis, integration and validation of knowledge derived through the scientific method.

In NATO, S&T is addressed using different business models, namely a collaborative business model where NATO provides a forum where NATO Nations and partner Nations elect to use their national resources to define, conduct and promote cooperative research and information exchange, and secondly an in-house delivery business model where S&T activities are conducted in a NATO dedicated executive body, having its own personnel, capabilities and infrastructure.

The mission of the NATO Science & Technology Organization (STO) is to help position the Nations' and NATO's S&T investments as a strategic enabler of the knowledge and technology advantage for the defence and security posture of NATO Nations and partner Nations, by conducting and promoting S&T activities that augment and leverage the capabilities and programmes of the Alliance, of the NATO Nations and the partner Nations, in support of NATO's objectives, and contributing to NATO's ability to enable and influence security and defence related capability development and threat mitigation in NATO Nations and partner Nations, in accordance with NATO policies.

The total spectrum of this collaborative effort is addressed by seven Scientific and Technical Committees who manage a wide range of scientific research activities:

- AVT Applied Vehicle Technology Panel
- HFM Human Factors and Medicine Panel
- IST Information Systems Technology Panel
- NMSG NATO Modelling and Simulation Group
- **SAS** **System Analysis and Studies Panel**
- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

These Scientific and Technical Committees are the power-house of the collaborative model and are made up of national representatives as well as recognized world-class scientists, engineers and information specialists. In addition to providing critical technical oversight, they also provide a communication link to military users and other NATO bodies.

The scientific and technological work is carried out by Technical Teams, created under one or more of these bodies, for specific research activities which have a defined duration. These research activities can take a variety of forms, including Research Task Groups, Research Workshops, Research Symposiums, Research Specialists' Meetings, Research Lecture Series and Research Technical Courses.

THE SYSTEM ANALYSIS AND STUDIES (SAS) PANEL

The System Analysis and Studies (SAS) panel, designated as NATO STO's foremost expert panel for providing analytical advice, conducts studies and analyses to enhance decision-making in matters of strategy, capability development, and operational activities within NATO, NATO member nations, and partner nations. The SAS panel's key driving factors encompass the effective utilization of emerging technologies, innovative organizational structures, and novel operational concepts.

The primary focus of the Panel centers on conducting Operations Analysis activities that address challenges arising within the evolving strategic landscape, as well as the responses formulated by individual nations and the collective NATO body to address these challenges. The research initiatives can be categorized into four core areas:

1. **Policy and Strategy Decision Support:** This entails providing decision-making support by analyzing and assessing the impacts of geopolitical forces, regional dynamics, future scenarios, and technological shifts to facilitate policy and strategy decisions.
2. **Operations Decision Support:** The panel engages in analysis to enhance operational tactics, training protocols, and procedures. It actively contributes to the development of improved methods for operational planning.
3. **Capability and Investment Decision Support:** The SAS panel aids in decision-making related to systems, force elements, and enabler capabilities. This involves collecting and consolidating cost and performance data and defining the necessary missions for these specific systems and capabilities.
4. **Development and Maintenance of Analysis Capabilities:** The foundational work of the Panel revolves around developing and sustaining analytical capabilities that are innovative and academically robust. This is crucial to furnish NATO with the necessary analytical tools for well-informed defense decision-making. Activities in this area include the creation of analytical methods to address emerging security challenges, sharing knowledge on Operations Analysis modeling concepts and best practices, researching new methodological approaches, and developing and exchanging analytical models.

The Panel harnesses its extensive spectrum of analytical capabilities to provide decision support at various levels and across diverse domains. This includes not only identifying and assessing the influence of geopolitical factors but also enhancing operational tactics, devising more effective training procedures, and supporting the development of advanced systems and capabilities. Additionally, it plays a pivotal role in collecting and consolidating essential cost and performance data.

The SAS panel's research projects stem from proposals put forth by NATO member nations participating in the SAS panel. Furthermore, it responds to requests for analysis and studies from a multitude of sources, which encompass the Science and Technology Board (STB) and various other NATO entities such as the NATO Military Committee, the Conference of National Armament Directors (CNAD) with its Main Armaments Groups, the NATO Industrial Advisory Group (NIAG), Allied Command Operations (ACO), Allied Command Transformation (ACT), and the NATO Communications and Information Agency (NCIA).