



**NATO Science and Technology Organization (STO)**  
**System Analysis and Studies (SAS) Panel Monthly Update**  
**(February 2024)**



Please find below an overview of items of interest for the SAS community covering the month of February and the upcoming period. Please reach out to the SAS Panel Office at [sas@cso.nato.int](mailto:sas@cso.nato.int) if you are interested in contributing to a research activity or would like more information.

**1. Recent SAS events.**

- **STO held its annual Plans and Programs Workshop (PPW) in Paris.** The PPW is a Board-level programme planning event providing an opportunity for STO representatives to develop guidance for the future direction of the STO Collaborative Programme of Work (CPoW) in areas where specific topics or activities are not yet defined. This year's PPW reviewed the CPoW through the lens of the NATO Warfighting Capstone Concept (NWCC). Developed by NATO Allied Command Transformation (ACT), the NWCC was approved by the North Atlantic Council in early 2021 to provide a "North Star" vision on how the Alliance should develop its military instrument of power in order to maintain its advantage for the next 20 years. Several break-out sessions held at the PPW focused on how science and technology can support the five warfare development imperatives (WDIs), which serve to organize and synchronize Alliance-wide warfare development.
- **The virtual kick-off meeting of the SAS-191 Research Technical Course team, organizing the Nordic Pine 2024 exercise on Hybrid Threats to Renewable Energy Systems was held on 06 February 2024.** The idea of this course follows after a series of TTXs (Tabletop Exercise) hosted in Sweden and Finland focused on hybrid threats to renewable energy systems. These has been planned since 2020 as one of several TTX's within SAS-163 and are closely related to its successor SAS-183. The first execution of the exercise was in September 2022 in Sweden. The idea to continue these efforts as a STO research activity was formed through the cooperation between Swedish Total Defence Foundation and the members of NATO STO SAS-163, and further developed by RISE and Naval Postgraduate School. At this stage the team has the core planning team (CPT) established - that will continue to discuss funding, sites, evaluation etc. until they have an EXCON team in place. The plan is to hold the virtual constitutional meeting for the EXCON team on 04 March. When interested in joining the efforts, experts should obtain national approval by signing up to SAS-191 via STO's APPOINT platform at <https://scienceconnect.sto.nato.int/tap/signup> and contact the Team Leader, Mr JÖNSSON HANBERG, [freddy@totalforsvar.org](mailto:freddy@totalforsvar.org).
- **The virtual kick-off meeting of the SAS-ET-FK Exploratory Team titled Future Strategic Environment Assessment was held on 20 February 2024.** The objective of this ET is to formulate a Technical Activity Proposal (TAP) for a research activity to exploit the Future Strategic Environment Assessment Handbook, produced within the SAS-154 research team in 2023. At the kick-off meeting team members introduced themselves and the SAS Panel Office provided a brief introduction of STO and explained ET deliverables and timelines. The team agreed that their objective could best be met through the development and provision of a series of lectures. Part of the exploratory work is to agree on the purpose, target audience, scope and topics, and where and when these events could be held. The SAS-ET-FK team aims at finishing their TAP for submission in the fall 2024 decision cycle.
- **The virtual kick-off meeting of the SAS-ET-FL Exploratory Team titled AI tools for Operational Planning was held on 26 February 2024.** The objective of this ET is to formulate a Technical Activity Proposal (TAP) for a research activity that will investigate how AI may be best applied in Operational Planning to support defence and security decision making within NATO, its member Nations, and partners. The goal is not to explore tools

that will replace military planners, but rather that will increase their productivity and enhance the plans that they produce. The team agreed on six tasks to be included in the proposed research:

- Task 1: Develop a synopsis of current AI technological developments related to OPP requirements.
- Task 2: Scoping feasibility of distinguished AI technologies.
- Task 3: Prepare an inventory of opportunities for AI-support in Operational Planning.
- Task 4: Research one opportunity selected from the above inventory.
- Task 5: Develop a scenario as context to demonstrate the solution for the opportunity identified in Task 4.
- Task 6: Develop conclusions and recommendations.

For more details please contact the Team Leader, Dr Dragos CALITOIU, [Dragos.Calitoiu@forces.gc.ca](mailto:Dragos.Calitoiu@forces.gc.ca).

## 2. Upcoming SAS events.

- **The STO/CSO is organizing a Cross-Panel Proposers Workshop on 28 March 2024 from 14:00 to 18:00.** This is a first experiment to further improve the coordination of new interdisciplinary Technical Activity Proposals. Proposers will present a ten-minute 'elevator pitch' on their activity proposal. The aim is to bring in proposers and audiences in a rolling manner; therefore interested experts do not have to log in to listen to the entire workshop; they just dial in for the item matching their interest. [Webex](#) link - Meeting number: 27449879445 - Password: RpRg3jUSV67). More info is available for those with an STO account. Please go to <https://scienceconnect.sto.nato.int/events/15756> for the latest information.
- **The 53<sup>rd</sup> SAS Panel Business Meeting will be held in Stockholm, Sweden on 14-17 May 2024.** Participation is open to nationally appointed System Analysis and Studies (SAS) Panel Members, Associate Members and Members-at-Large only. Guests will be invited on behalf of the SAS Panel Chair. Online registration is open via the STO Events site [\[here\]](#) and will close on 10 April 2024. The new proposed Exploratory Teams and Technical Teams the Panel Office has received so far for ratification by the Panel are the following:
  - SAS-ET-FP (Exploratory Team) Measuring the Operational Effectiveness of Software-Intensive Military Platforms in Cyber and Electronic Warfare Environments. More info is available for those with an STO account [\[here\]](#).
  - SAS-ET-FQ (Exploratory Team) The connection of North Atlantic and Arctic Oceans in the 21st century challenges of maritime and human securities (2023-2035). More info is available for those with an STO account [\[here\]](#).
  - SAS-ET-FR (Exploratory Team) Quantifying Defense Capabilities using Data Analytics and Mathematical Modelling. More info is available for those with an STO account [\[here\]](#).
  - SAS-ET-FS (Exploratory Team) Challenges for Multi-Domain Operations. More info is available for those with an STO account [\[here\]](#).
  - SAS-196 (Research Symposium) SAS Annual Symposium - 19th NATO Operations Research and Analysis (OR&A) Conference 2025. More info is available for those with an STO account [\[here\]](#).
  - SAS-197 (Research Lectures Series) NATO STO Summer School 2025: Decision-Making for the Future. More info is available for those with an STO account [\[here\]](#).
  - SAS-198 (Research Technical Course) Nordic Pine 2025: hybrid threats to renewable energy systems. More info is available for those with an STO account [\[here\]](#).

A variety of cross-panel/interdisciplinary research proposals submitted through one of the other six STO Scientific and Technical Committees (or Panels/Group) will be included in the Read Ahead Package for the Panel Business Meeting. In addition, they will be presented during an online Cross-Panel Proposers Workshop on 28 March 2024.

- **The SAS-192 Research Symposium titled NATO OR&A Conference 2024 (and the consecutive SAS Panel Business Meeting) will be held in Malaga, Spain on the week of 04 November 2024.** This annual conference

serves as an integral component to the continuous development of the NATO Operations Research and Analysis (OR&A) community of interest. It builds upon previous conferences and workshops and 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. The theme for this year's conference will be 'Collaboration to enable military advantage in an unstable world'. The team's goal is to provide an exciting program with plenty of opportunities for discussion and debate and provide valuable and relevant training opportunities. The theme of the 2024 conference is: **"Collaboration to enable military advantage in an unstable world"**. 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](#)]. Registration for the event will open in June/July 2024.

- **The SAS-190 Research Symposium on Enhancing Energy Security Resilience, Capabilities and Interoperability will be held in Warsaw, Poland on 12-14 November 2024.** Through a Call for Papers, inviting keynote speakers and dedicated workshops, the event will increase the depth and scope of critical areas in subject area. The event will focus on the exchange of ideas and best practices, as well as to highlight accomplishments of previous and ongoing research, and more narrowly focus on ways to enhance NATO member states' resilience, capabilities and interoperability in a hybrid warfare/energy security context. A detailed programme will be developed based on selected papers, but will focus on the following five topics:
  - Enhanced regional focus on the Baltic, Black, and Arctic Seas.
  - The broader geo-political implications and strategic foresight assessment.
  - Enhancing NATO resilience, capabilities and interoperability.
  - Advanced Cyber Defense Topics Concentrating on Early Warning.
  - Exercise Results

The Call for Papers is published on the STO Events site [[here](#)]. Interested candidates from NATO Nations, Partnership for Peace nations and Global Partners are invited to submit an abstract (between 150 to 250 words) for consideration no later than 01 May 2024 by email to [arnold.dupuy@nps.edu](mailto:arnold.dupuy@nps.edu). US-affiliated authors will have to send their abstract in copy to their STO National Coordinator at [osd.pentagon.ousd-atl.mbx.usnatcor@mail.mil](mailto:osd.pentagon.ousd-atl.mbx.usnatcor@mail.mil). Registration for the event will open in June 2024.

### 3. Recent SAS Publications.

- **SAS-161 published its Technical Report titled "Military Aspects of Countering Hybrid Warfare: Experiences, Lessons, Best Practices Volume II: Information and Influence"**. The SAS-161 work is meant to inform the full spectrum of military planning at the Alliance and national level. This functionally oriented analysis touches all aspects of military effectiveness and help inform our collective efforts to account for the challenges of contemporary, and expected future characteristics, of competition, conflict, warfare, and warfighting. The case studies in this volume demonstrate the importance of close study of Russian, or any threat actor's, behaviours, in a manner cognizant of the specific context of that actor. In other words, seeking to identify generic threat characteristics is less useful for planning purposes than understanding each threat on its own, at least in the first instance. The examination of KFOR and Canadian deployments to Latvia and Ukraine expose some erroneous assumptions of likely Russian behaviour and targets. The publication is available on the STO website [[here](#)].

#### 4. Other items of interest

- **Headquarters Allied Command Transformation and the Centre Interarmées de Concepts, de Doctrines et d'Expérimentations (CICDE) is pleased to invite Subject Matter Experts from the wider community of interest to the Strategic Foresight (SF) Future Operating Environment (FOE) Workshop held at the École Militaire, 1 Place Joffre, 75007 in Paris on 26-27 March 2024.** This FOE workshop is a follow-up to the initial FOE event in London (November 2023). The intent is to hold an informed discussion of the future battle space, actors and warfare across all operational domains and effect dimensions. This effort will include modelling and simulation tools during breakout sessions to test and further develop the FOE concept. All participants will need to register online on CVENT <https://cvent.me/g8q8qn>. Registration will be open 22 January until 8 March 2024, along with additional information (read ahead material and administration). Points of contact are Major Marie Déruelle (FRA AF) on +1 757- 747- 3490, [marie.deruelle@act.nato.int](mailto:marie.deruelle@act.nato.int) or LTC Adam Rutherford (GBR RM) on +1-757-747 3727, [adam.rutherford@act.nato.int](mailto:adam.rutherford@act.nato.int).
- **The OR Society presents the 41st International Symposium on Military Operational Research (ISMOR 41) to be held at National Oceanography Centre, Southampton, SO14 3ZH, United Kingdom from 16 to 18 July 2024.** ISMOR is an annual international symposium sponsored by the UK Ministry of Defence. It provides an opportunity for professionals and academics to explore and discuss analysis on practical issues facing defence and security, with a wide range of colleagues from across the world. ISMOR offers a development opportunity for early career analysts, and is an inclusive event that invites participation from a diverse range of people. The programme team welcome submissions on any topic falling within the scope of defence or security Operational Research. 150-word abstracts can be submitted by email until 31 May 2024 to [enquiries@ismor.com](mailto:enquiries@ismor.com) for a) Presentations lasting 20 minutes followed by 10 minutes for questions., b) Interactive workshops and seminars lasting 90 minutes (including: Deep dive into a technical paper or topic that warrants longer exploration; Demystifying a method, tool or technique in an interactive tutorial; Testing or refining a new method or technique through delegate participation and constructive feedback; and Focus group on a particular problem or challenge, harnessing breadth of delegate experience and eliciting broad inputs). Registration will be open from March 2024 via the OR Society website at <https://www.theorsociety.com/events/ismor/>.
- **The Women & Girls in Science 2024 Challenge (WGS24) is a challenge organised by the NATO Science & Technology Organization (STO) for female university students and early career researchers from NATO countries, up to 30 years old.** The first phase of the challenge involves filling out the following application form to guide the creation of your short research proposal (up to 1300 words). The proposal should address one of the following NATO S&T focus areas: energy security, climate change, human security, societal resilience. The ideas can aim to either solve an existing issue or to prevent its evolution. Deadline for submissions is Sunday, 21 April 2024. If you're one of the lucky 12, you will present your idea to a panel of experts during the challenge finale at NATO HQ (Brussels) on Thursday, 30 May 2024. NATO STO will cover your travel costs to Brussels. Additionally, the research ideas of the shortlisted participants will be officially recognised by the NATO Chief Scientist, who will personally award the participants with a Certificate of Recognition. More info at [https://www.nato.int/cps/en/natohq/news\\_222337.htm?selectedLocale=en](https://www.nato.int/cps/en/natohq/news_222337.htm?selectedLocale=en).