



S&T Organization in NATO

For over 60 years, NATO has been able to achieve its mission objectives by staying at the forefront of technology.

NATO must maintain that technological advantage to ensure success in future defence and security operations. The primary mission of NATO S&T is:

Maintain NATO's scientific and technological advantage by generating, sharing and utilizing advanced scientific knowledge, technological developments and innovation to support the Alliance's core tasks.

The NATO Science and Technology Organization (STO) contributes to this by helping 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. It does this 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;
- 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;
- Supporting decision-making in the NATO Nations and NATO.



System Analysis and Studies Panel

Within the STO's Collaboration Support Office, the System Analysis and Studies (SAS) Panel is the STO's expert analytical advice panel. It conducts

studies, analysis and information exchange activities that explore how operational capability can best be provided and enhanced through the exploitation of new technologies, new forms of organization or new concepts of operation. Such studies serve to improve National and NATO doctrine, and when costs are considered, provide advice on the most cost-effective options for the Alliance.

APPLICATION TO ENROLL

TECHNICAL COURSE (SAS-149)

15 - 17 Dec 2020, virtual

Open to representatives from NATO Nations and Organizations, NATO STO's Enhanced Opportunity Partners (Australia, Finland and Sweden), NATO Partnership for Peace Nations and New Zealand

For virtual participation, enrolment must be made via the STO Events website at

<https://events.sto.nato.int/index.php/upcoming-events/event-list/event/25-tc/304-sas-149-technical-course-15-17-dec20>

The virtual platform and access codes will be shared with validated enrolments.

Please respect the following dates for enrolment:

- NATO Nations - 8 December 2020
- Non NATO Nations - 1 December 2020

Contact/Enrolment Coordinator

NATO Collaboration Support Office (CSO)

+33 (0)1 55 61 22 20 (phone)

+33 (0)1 55 61 96 28 (fax)

lectureseries@cso.nato.int

For Further Information on NATO STO Please Visit

www.sto.nato.int



SCIENCE AND
TECHNOLOGY
ORGANIZATION



SYSTEM ANALYSIS AND STUDIES (SAS) PANEL

TECHNICAL COURSE (SAS-149)

15 - 17 Dec 2020, virtual

Basics Of Complex Modern Urban Functions And Characteristics

“Principes fondamentaux des fonctions et caractéristiques des environnements urbains modernes complexes”

Open to representatives from NATO Nations and Organizations, NATO STO's Enhanced Opportunity Partners (Australia, Finland and Sweden), NATO Partnership for Peace Nations and New Zealand

Theme

This course shall provide a foundation to both military and scientists in terms of the latest attributes of complex modern cities which continue to evolve with increasing urbanization. This foundation should inform military and scientists in their development of operational concepts, capability developments and science & technology initiatives as well as experimentations.

Topics to be covered:

Marc BARTHELEMY (The Structure and Dynamics of Cities), David KILCULLEN (Understanding the Urban Environment and the Future Threats), Patrick MAUPIN (Experimenting with Cities), Allan SHEARER (Functions of a Large City), John W. SPENCER (Modern urban operations)

Thème

Ce cours fournira une base aux militaires et aux scientifiques en ce qui concerne les attributs des villes modernes complexes qui continuent d'évoluer avec l'urbanisation croissante. Cette fondation devrait informer les militaires et les scientifiques dans leur développement de concepts opérationnels, de développements de capacités, d'initiatives scientifiques et technologiques ainsi que d'expérimentations.

Sujets traités :

Marc BARTHELEMY (La structure et la dynamique des villes), David KILCULLEN (Comprendre l'environnement urbain et les menaces futures), Patrick MAUPIN (Expérimenter avec les villes), Allan SHEARER (Fonctions d'une grande ville), John W. SPENCER (Opérations urbaines modernes)

TECHNICAL COURSE PROGRAMME

DAY ONE (ALL TIMES Eastern Daylight Time)

09:00 Opening
09:15 NATO STO Overview - LTC Timothy Povich
10:00 Understanding the Urban Environment - Dr David Kilcullen
11:00 Break
11:15 The NATO Capstone Document - COL Stephan Pillmeier
11:45 Emerging and Future Threats: Implications for Operations - Dr David Kilcullen
12:45 Break
13:45 Understanding Modern Urban Operations - Mr John W. Spencer
14:45 Break
15:00 Training For Modern Urban Operations - Mr John W. Spencer
16:00 Q & A
16:15 Closure Day 1

DAY TWO (ALL TIMES Eastern Daylight Time)

09:00 Opening
09:15 City Representative on an Open Data Initiative (lecturer TBC)
10:00 The Structure and Dynamics of Cities: Urban Systems, Dr Marc Barthélémy
11:00 Break
11:15 Growing up in Belfast During 'The Troubles': The Perspective of the Population in Urban Conflict - Mr Stuart Lyle
11:45 The Structure and Dynamics of Cities: Networks and Systems - Dr Marc Barthélémy
12:45 Break
13:45 Functions of a Large and Complex City - Dr Allan Shearer
14:45 Break
15:00 Smart Cities and Resilience - Dr Allan Shearer
16:00 Q & A
16:15 Closure Day 2

DAY THREE (ALL TIMES Eastern Daylight Time)

09:00 Opening
09:15 Experimenting with Cities – Mr Patrick Maupin
10:00 The TTCP CUE18 (Montréal) Table Top Exercise – Dr David Kilcullen (video)
11:00 Break
11:15 Simulated Urban Operations - Mr Stuart Lyle
11:45 The Battle of Sadr City: March 23 – May 12, 2008 - Mr John W. Spencer
12:15 Q & A
12:30 Closure Day 2

Technical Course Director

Patrick MAUPIN

Defence Research and Development Canada

E-mail: patrick.maupin@forces.gc.ca

Lecturers

Dr Marc BARTHELEMY (FRA)

Institute of Theoretical Physics (Saclay)

E-mail: marc.barthelemy@ipht.fr

Dr David KILCULLEN (AUS)

Cordillera Applications Group

E-mail: djk@cordillera-apps.com

Mr Patrick MAUPIN (CAN)

Defence Research and Development Canada

E-mail: patrick.maupin@forces.gc.ca

Dr Allan SHEARER (USA)

The University of Texas at Austin

E-mail: ashearer@austin.utexas.edu

Mr John W. SPENCER (USA)

Modern War Institute

E-mail: johnwspencer2018@gmail.com

Course Coordinator

Jeroen GROENEVELT

NATO Science and Technology Organization

7 rue Ancelle, Neuilly-sur-Seine, FRANCE

E-mail: jeroen.groenevelt@cso.nato.int