

## 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

## APPLICATION TO ENROLL

### TECHNICAL COURSE #2 (SAS-149)

**14 - 16 Dec 2021, virtual**

Open to representatives from NATO Nations and Organizations, NATO STO's Enhanced Opportunity Partners (Australia, Finland, Japan 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-14-16dec21>

The virtual platform and access codes will be shared on the enrollment website.

Please respect the following dates for enrolment:

- NATO Nations - 12 December 2020
- Non NATO Nations - 5 December 2020

#### Contact/Enrolment Coordinator

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For Further Information on NATO STO Please Visit

[www.sto.nato.int](http://www.sto.nato.int)



SCIENCE AND  
TECHNOLOGY  
ORGANIZATION



## COLLABORATION SUPPORT OFFICE

### SYSTEM ANALYSIS AND STUDIES (SAS) PANEL



### TECHNICAL COURSE #2 (SAS-149)

**14—16 Dec 2021, 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, Japan 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.

## 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.

## Topics to be covered / Sujets traités :

Dr David KILCULLEN

Intelligence Preparation of the Urban Operating Environment / Préparation renseignement de l'espace opérationnel urbain

Dr Allan SHEARER

Urban Governance: Governments, Markets, and Algorithms / Gouvernance urbaine : Administrations publiques, marchés et algorithmes

Organization and Evolution of Complex Urban Systems / Organisation et évolution de systèmes urbains complexes

Mr Joseph BOGAN

Future Cities: Verticality, Mixed Use Architectures and Changing Social Norms / Villes du futur : Verticalité, architectures à usage mixte et normes sociales en mutation

Mr John W. SPENCER

The Mumbai Attacks and The 2020 Battle of Shusha / Les attaques de Mumbai et La bataille en 2020 de Chouchi

Mr Patrick MAUPIN, Mr Stuart LYLE, Mr Guido VELDHUIS, Mr Bas KEIJSER

Advanced Topics in Urban Science / Sujets avancés en science urbaine

## TECHNICAL COURSE PROGRAMME

### DAY ONE (ALL TIMES Eastern Standard Time)

09:00	Opening
09:15	NATO STO Overview - LTC Spencer Timmons (Presentation)
10:00	Intelligence Preparation of the Urban Operating Environment: Analysis of Urban Physical, Human, Informational and Infrastructural Terrain – Dr David Kilcullen (Presentation, Video)
11:00	Break
11.15	The Multi-Domain Urban Operations (MDUO) Initial Concept – LTC Andras Mezo (Presentation, Video)
11:45	Intelligence Preparation of the Urban Operating Environment: Analysis of Urban Threats and Threat Actors – Dr David Kilcullen (Presentation)
12:45	Break
13:45	Urban Governance: Governments, Markets, and Algorithms – Dr Allan Shearer (Presentation, Video)
14:45	Break
15:00	Organization and Evolution of Complex Urban Systems – Dr Allan Shearer (Presentation, Video)
16:00	Q & A
16:15	Closure Day 1

### DAY TWO (ALL TIMES Eastern Daylight Time)

09:00	Opening
09:15	(Testimony) Leveraging the Urban Environment in Below-Threshold Operations: from Lviv to Kyiv, Kharkiv and Odessa (Ukraine) - Lieutenant-colonel Frédéric Côté (Presentation, Video)
10:00	Future Cities: Verticality and Mixed Use Architectures – Mr Joseph Bogan
11:00	Break
11.15	(Testimony) My Time as UN MINUSTAH COS in Port-au-Prince, Haiti – Brigadier-General Nicolas J.-L. Pilon (Presentation, Video)
11:45	Future Cities: Changing Social Norms – Mr Joseph Bogan
12:45	Break
13:45	The Mumbai Attacks – Mr John W. Spencer (Presentation, Video)
14:45	Break
15:00	The 2020 Battle of Shusha – Mr John W. Spencer (Presentation, Video)
16:00	Q & A
16:15	Closure Day 2

### DAY THREE (ALL TIMES Eastern Daylight Time)

09:00	Opening
09:15	Taming Complexity: Understanding the Urban Operating Environment as a System – Mr Guido Veldhuis & Mr Bas Keijser (Presentation)
10:00	Simulating Urban Operations: The Art of the Possible – Mr Stuart Lyle (Presentation)
11:00	Break
11:15	A Quick Survey of Strategic Intelligence Initiatives about the Urban Environment – Mr Patrick Maupin (Presentation)
12:15	Q & A
12:30	Closure Course

## Technical Course Director

Mr Patrick MAUPIN

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## Lecturers

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## Course Coordinator

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