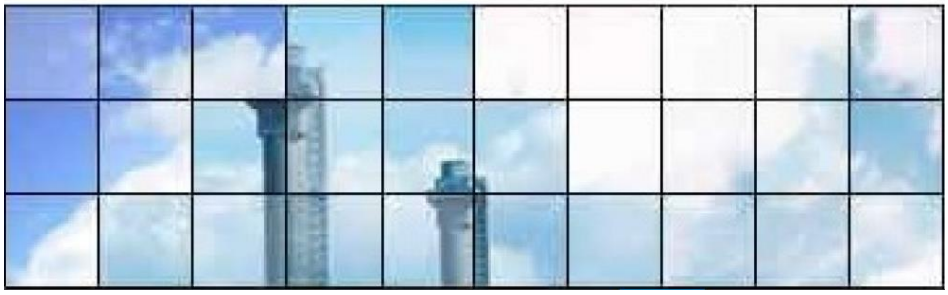
ADMLC

Atmospheric Dispersion Modelling Liaison Committee www.admlc.com



Webinar: Use of dispersion modelling for sensor network design to facilitate source attribution, emissions estimation and incident response

14:00-16:30 GMT Tuesday 8 February 2022

Dispersion modelling is increasingly being used to help design and optimise sensor networks. This includes two broad classes of applications: (i) safety and defence, and (ii) environmental applications. Safety and defence applications typically involve discrete short-term emission and dispersion events (e.g., spills, major loss of containment events, fires, accidents, terrorist incidents) leading to potentially acute human exposures. Environmental protection applications typically involve continuous emission and dispersion patterns (e.g., from industrial or intensive agriculture sites) leading to potential long-term/cumulative/chronic exposures of ecosystems, crops and populations. This webinar focuses on the first type of application. There will be four main talks covering nuclear test monitoring at regional or global scales, emergency-response applications in a city and, finally, safety-related applications at industrial facilities. Professor Bowman from DSTL has kindly agreed to provide an introductory talk to help set the scene and identify some of the known issues and pitfalls faced within this topic. The aim of the webinar is to discuss and share information, knowledge and experience across these different types of application at different scales, to identify challenges and opportunities, and to see if learning from one area can benefit another. The list of talks is as follows:

- **Veronica Bowman** (Data Science and Situational Awareness Fellow, DSTL, UK) “Dispersion modelling for sensor network design and inverse modelling” – an introduction to the webinar.
- **Matthew Goodwin** (Nuclear Verification and Detector Physics team, AWE, UK) “Applications of atmospheric transport and dispersion modelling for nuclear test monitoring”
- **Hannibal Fossum** (Total Defense Division, FFI, Norway) “Quick and accurate dispersion modeling based on precomputed wind fields”
- **Paul Westoby** (CB Advice Group, DSTL, UK) Title tbc
- **Benjamin Truchot** (Fire Dispersion Explosion – Accident Risk Division, INERIS, France) “Optimization of sensor locations using dispersion modelling for application to industrial facilities”

The talks will be followed by a 30 minute discussion session. The ADMLC welcomes attendees from the dispersion modelling and sensor network communities. Our hope is that the webinar will bring together representatives from academia, industry, government departments and consultancies, and provide an opportunity to share experiences gained in this field. The webinar is free to attend and will be hosted on Microsoft Teams. If you would like to register for the event, please email: admlc@phe.gov.uk.