Atmospheric Dispersion Modelling
Liaison Committee (ADMLC)

Dispersion modelling in emergency response

ADMLC Webinar, 14:00-16:00 GMT, Friday 29 January 2021

Background to ADMLC

- **1977**: Experts from UK government departments, utilities and research organisations met to discuss atmospheric dispersion modelling of radioactive releases
  - Informal steering committee reviewed recent developments
- **1995**: ADMLC formed with initial focus on the nuclear industry
- **Since 1995**:
  - Scope widened to include range of interests of ADMLC members, including UK and Irish industrial and regulatory organisations
  - **Aim**: to review atmospheric dispersion and related phenomena for application primarily to authorization or licensing of discharges to atmosphere resulting from industrial, commercial or institutional sites
  - Main interests on fixed sources, rather than transport sources, including both routine releases and releases in accident or "upset" conditions
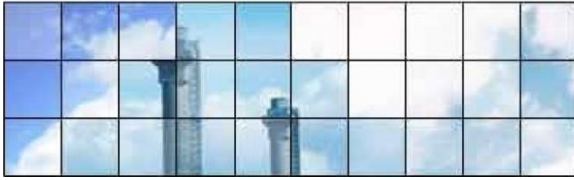
Background to ADMLC

Current membership:
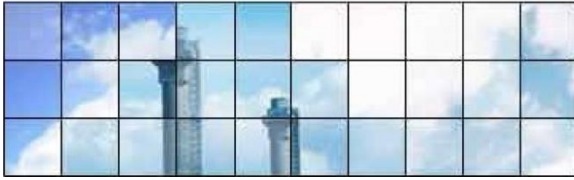
Background to ADMLC

- ADMLC committee meets three times per year
- Each member organization contributes £3k each year
- ADMLC public workshop/seminar every 2 to 3 years
- Small research projects commissioned:
  - Modelling pollutant dispersion from non-point sources (2016)
  - Presenting uncertain information in radiological emergencies (2016)
  - Sensitivity of dispersion modelling results to source terms (2017)
  - Use of Gaussian modelling techniques for near-field dispersion (2021)
  - Dispersion modelling of odour emissions (2021)
- Ongoing projects:
  - Update to: ADMLC guidelines for the preparation of short-range dispersion modelling assessments for compliance with regulatory requirements
  - Dense-gas dispersion for industrial regulation and emergency response
- Dispersion model validation datasets, e.g. Thorney Island
- Reports and datasets publicly available: http://www.admlc.com
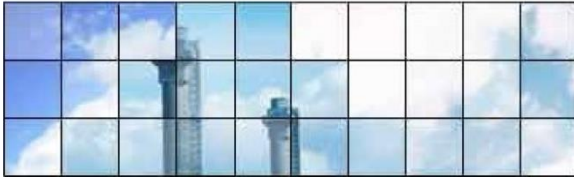
Possible future ADMLC research projects (www.admlc.com/work):

1. Application of models to the design of monitoring networks
2. A review of model evaluation procedures
3. Importance of spatial resolution of NWP data in dispersion modelling for regulatory purposes
4. Dry/wet deposition of gases and particulates
5. Modelling of sources in an emergency
6. Fire source terms and plume rise
7. Understanding the impact of meteorological uncertainties

conference paper discusses these topics

ADMLC is seeking to partner with other funding agencies or self-funding research organisations on topics of mutual interest

Webinar Programme

| Simon Gant (HSE)	ADMLC Chair welcome
Sarah Millington (Met Office)	Joint Agency Modelling – providing guidance on the impacts of the atmospheric dispersion and deposition of radiological material during a response to an incident
Ron Meris (U.S. Defense Threat Reduction Agency)	U.S. DoD DTRA Technical Reachback Overview and two case study examples: Fukushima Daiichi Nuclear Facility 2011 and Arkema Chemical Facility 2017
Frédéric Tognet (INERIS, France)	Post-accidental dispersion modelling: a look back at the incidents of Lubrizol (2013, 2019) and Notre Dame (2019)
Discussion session	
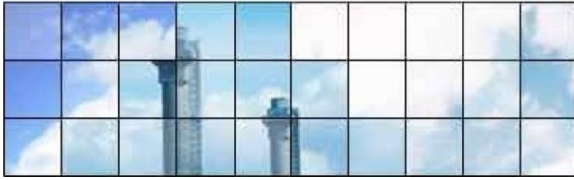
Webinar Programme

Aims and motivation:

- To understand how different organisations work collaboratively when responding to a dispersion-related emergency situation

- To share knowledge and experience

- To discuss possible improvements in practises and joint working

- To improve collaboration across the UK and internationally

Slides will be made available on the ADMLC website after the webinar

- Please mute your microphone if you're not speaking

- Please add any comments/questions for the discussion session in the **chat window**

- Please **raise your hand** if you would like to speak in the discussion session
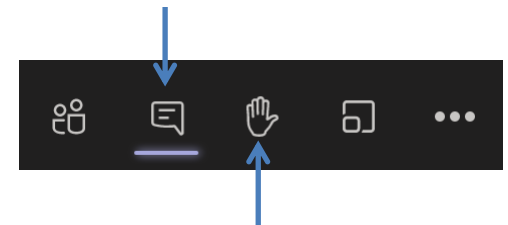
Thank you

Please provide feedback on this seminar:
admlc@phe.gov.uk

(what worked well? what could we improve?)

Future ideas for ADMLC seminars

- Use of satellite data for dispersion analysis