Satellite-based monitoring and atmospheric dispersion modelling as complementary techniques

ADMLC Webinar, 14:00-16:30 BST, Thursday 27 May 2021
• **29 January**: ADMLC webinar on “Dispersion modelling in emergency response”

• **9 February**: Published revised ADMLC guidelines for the preparation of short-range dispersion modelling assessments for compliance with regulatory requirements [https://admlc.com/model-guidelines/](https://admlc.com/model-guidelines/)

• **24 February**: Presentation at the Dispersion Modellers User Group (DMUG) online conference, Wednesday 24 February 2021 [https://iaqm.co.uk/resources/dmug/](https://iaqm.co.uk/resources/dmug/)

• **17 March 2021**: Draft report on “Dense-gas dispersion for industrial regulation and emergency response” by Rachel Batt (HSE) provided to the ADMLC, currently under review and due to be published in June 2021
ADMLC Membership

- AWE
- dstl
- Met Office
- HSE
- SEPA
- eDF
- defra
- Food Standards Agency
- RiskAware
- Environment Agency
- EPA
- Public Health England
- Office for Nuclear Regulation
- Cyfoeth Naturiol
- Natural Resources Wales
ADMLC Projects

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

Expressions of interest invited (deadline 30 June 2021)

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

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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Topic</th>
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<tr>
<td>14:00 – 14:05</td>
<td><strong>Simon Gant</strong> (HSE, ADMLC Chair):</td>
<td>Introduction</td>
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<td>14:05 – 14:20</td>
<td><strong>Claire Witham</strong> (Met Office):</td>
<td>“Introduction to satellite data for dispersion modelling”</td>
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<td>14:20 – 14:40</td>
<td><strong>Andrew Brown</strong> (National Physical Laboratory):</td>
<td>“Application of satellite air quality and greenhouse gas measurements to regulatory activities: preliminary studies” [work delivered on secondment to the Environment Agency]</td>
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<td>14:40 – 14:55</td>
<td><strong>Dan Potts</strong> (University of Leicester):</td>
<td>“Smarter analysis of satellite data for air quality regulators”</td>
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<td>15:05 – 15:15</td>
<td><strong>BREAK</strong></td>
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## Webinar Programme

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<tr>
<td>15:15 – 15:40</td>
<td><strong>Murray Purves</strong> (Riskaware): “Space-based data for urban hazard prediction”</td>
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<tr>
<td>14:20 – 14:40</td>
<td><strong>Scott Bradley</strong> (DTRA) and <strong>Joel Howard</strong> (Dstl): “Comparison of SCIPUFF predictions to SO₂ measurements from instruments on the MetOp-A, MetOp-B, Aura and Soumi satellites from the 2016 fire at Al-Mishraq”</td>
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<tr>
<td>16:05 – 16:30</td>
<td><strong>DISCUSSION</strong></td>
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<td>16:30</td>
<td><strong>CLOSE</strong></td>
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Aims and motivation:
• To review current and upcoming satellite monitoring techniques
• To explore how satellite data and dispersion modelling can be used together to give better information on air quality and hazardous releases
• To share knowledge and experience
• To discuss possible improvements in practises and joint working
• To improve collaboration across the UK and internationally

Webinar is being recorded on video
Slides and video will be made available on the ADMLC website

• 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

Thanks to ADMLC Secretariat for organising this webinar
– Justin Smith and Peter Bedwell (PHE)

We would welcome feedback: admlc@phe.gov.uk
– What worked well?
– What could we improve?
– Breakout networking sessions during the coffee break?
– Future ideas for ADMLC seminars?