External seminar – 9 November 2015, 13:00 – 15:00 – D1.46 - ENVS, AU Roskilde

Use of CAMx Source Apportionment Modeling to Identify Contributions of Regional Transport and Wildfires to Ozone and Particulate Matter Concentrations

Speaker: Ralph E. Morris, Managing Principal, Air Science, Ramboll Environ

Host: Ole Hertel, DSc, PhD, Professor, Head of Section of Atm. Chem. & Physics

About the Speaker

Ralph E. Morris is the Managing Principal of the Ramboll Environ Novato, California USA Office where he directs the largest regional modeling consulting group in the world. He has been involved in the development and application of advanced photochemical air quality models for 36 years. In the 1970s/1980s he was heavily involved in ozone modeling of the Los Angeles area using the Urban Airshed Model (UAM), one of the first photochemical grid models (PGMs).

During the 1980s he led the USEPA Five Cities UAM Study that demonstrated how to use PGMs to identify control strategies to achieve the ozone standard. This study culminating with the delivery of the UAM to USEPA as a turn-key model and USEPA designating the UAM as the USEPA-recommended model for ozone air quality planning.

Recognizing that ozone is not just an urban issue, in the early 1980s Ralph led the development of the variable grid version of the UAM (UAM-V) to treat regional and urban regions using two-way grid nesting. UAM-V was used by USEPA, states and stakeholders in the Ozone Transport Assessment Group (OTAG) to analyze regional ozone transport in the eastern USA and led to the first regional control strategy to reduce regional ozone transport (the NO_X SIP Call).

After joining ENVIRON in 1994, Ralph was one of the leaders in the development of the Comprehensive Air-quality Model with extensions (CAMx) PGM that represents a one-atmosphere treatment of multiple air quality issues including ozone, $PM_{2.5}$, SO_2, NO_2, air toxics visibility and acid deposition.

Ralph has used numerous air quality models (e.g., CAMx and CMAQ) to help states and others develop control strategies to achieve ozone, $PM_{2.5}$ and other air quality standards. He has also led studies to transfer advanced modeling technologies to USEPA and other jurisdictions, including the Hong Kong Environmental Protection Division and Alberta Environment.

In December 2014, ENVIRON merged with Ramboll enhancing Ramboll's Environment and Health capabilities with an extensive and comprehensive air quality practice. Ramboll Environ continues to develop, maintain and distribute the CAMx PGM keeping up with the latest chemistry and other advances in air quality modeling.