



## National Association for Clean Air

### Short Course Announcement

## Introduction to Air Dispersion Modelling

Shelanti Conference Centre, Lyttleton, 14 to 16 March 2017

A 3-day introductory course and practical aspects of setting up and operating the AERMOD Gaussian Plume Model using Lakes Environmental Software

### Certificate of Attendance

- Dates:** 14 – 16 March 2017
- Venue:** Shelanti Conference Centre, 263 Jean Avenue, Lyttleton (Centurion)
- Times:** Daily 09:00 – 17:00
- Instructors:** (To be confirmed)
- Who should attend:** Current or aspirant air quality practitioners in the public and private sector, specifically persons responsible for performing or evaluating applications for Air Emissions Licences, based on dispersion modelling. Intending participants should have at the minimum knowledge of the basics of meteorology and air quality management.
- Participation:** A maximum of 20 participants will be accepted. The organisers reserve the right to select applications on the basis of an applicant's prior experience and qualifications. The organisers reserve the right to cancel the course should the required minimum number of participants (10) not be met.
- Certification:** Participants will be given a Certificate of Attendance. There will be no formal competency testing.
- Registration:** Complete the form below and return to Bev Terry at [bev@naca.org.za](mailto:bev@naca.org.za) Participants will be notified by email of acceptance on the course.
- Closing date:** You are kindly requested to submit a completed application form by **Friday, 14 February 2017**.
- Costs:** **R7,000.00** (Excluding VAT) per participant. Bank issued Proof of Payment or an approved purchase order must be submitted to Bev Terry before the commencement of the course. Fee includes participation in the course, a full set of printed notes and CD disk, cost of certificate, lunches, and morning and afternoon refreshments.
- Payment:** Payment should be made to the National Association for Clean Air, with surname and AERMOD as reference. Invoices will be issued by the National Association for Clean Air on request.
- Cancellation:** Cancellations will be accepted up until 21 March 2017. All course fees will be forfeited, with any cancellation after the said date. Substitutions may be made. Please send an e-mail notification of your cancellation or substitution to Bev Terry, Course Coordinator, at [071 683 9770](tel:0716839770) or [bev@naca.org.za](mailto:bev@naca.org.za).
- Accommodation:** Assistance will be provided for out of town delegates who wish to stay in bed and breakfast establishments in Hatfield. Cost of accommodation and transport are not included in the course fee.
- Enquiries:** If you need more information, please do not hesitate to contact Bev Terry, Course Coordinator, at [071 683 9770](tel:0716839770) or [bev@naca.org.za](mailto:bev@naca.org.za)
- Course content:** See attached programme for programme of lectures and course content.

# Introduction to Air Dispersion Modelling Short Course Registration Form

Shelanti Conference Centre, Lyttleton, 14 to 16 March 2017

Surname: .....  
First Name:..... Title: .....  
SA ID number or passport Number .....  
Designation: .....  
Company/Organisation: .....  
Postal Address: .....  
.....  
..... Code: .....  
Fax: ..... Tel: .....  
Cell:..... E-mail:.....  
Highest educational qualification: Matric "; BSc"; BSc Hons "; MSc "; Other " (specify): .....  
Current job description:.....  
Previous years and level of experience in air quality management or atmospheric sciences? .....

I wish to attend the Air Dispersion Modelling Short Course @ R7,000 **(excluding VAT)**

Name of person or institution responsible for paying the account:

I acknowledge that in submitting the above registration that I/( company named above) hold ourselves liable for the full fee for the course registration, if not cancelled before the specified date.

Signature..... Name (block letters).....

Date ..... Designation.....

If fees have not been made in full prior to start of the course, or satisfactory arrangements made for payment, the organisers reserve the right to exclude participation..

An invoice will be issued by the National Association for Clean Air, containing details for electronic payment.

**Please return to: Bev Terry, Conference Coordinator, NACA,**

P O Box 8370, Halfway House, 1685 or email/FAX to

E-mail: [bev@naca.org.za](mailto:bev@naca.org.za) Cell: [071 683 9770](tel:0716839770).

# Introduction to Air Dispersion Modelling

## Provisional Programme and Course Content

### Shelanti Conference Centre, Lyttleton, 14 to 16 March 2017

The course will comprise approximately 21 hours of lectures, including 7 hours of practical work using dispersion models. Students will be expected to spend time reading supplied course materials, as well as supplementary readings.

A comprehensive file of printed course materials will be supplied. A CD-ROM disk, containing the MS-PowerPoint presentations of the presented lectures will be distributed during the course. Access to a short term license of the Lakes Environmental Dispersion model will be provided.

Participants will be expected to bring their own laptop computers. Computers will not be provided and access to computers is not included in the course fee.

A Certificate of Attendance will be issued to participants who have attended the entire course and completed all practical assignments during the course.

## PROVISIONAL COURSE SCHEDULE AND CURRICULUM

Course meeting times are normally 09:00 to 16:30 daily

2017	Component	Lecturer
DAY 1:	<b>Introduction</b> and course overview, expectations <b>Component 1:</b> Overview of air dispersion and types of models dispersion models ranging from street-scale traffic modelling to long-range trajectory models, but focuses on urban airshed modelling and the application of meso-scale models	Presenters to be announced 3.5 hours
	<b>Component 2:</b> Basic meteorology affecting dispersion of pollutants. <b>Practical 1:</b> Blowing smoke - computer laboratory. Essentials of air quality dispersion modelling.	Presenters to be announced 3.5 hours
DAY 2:	<b>Component 3:</b> Data preparation for dispersion modelling. A) Sources of air pollution and emission inventories – point, area and volume sources B) Preparation of meteorological data sets. Surface and upper air windfields. C) Specification of source and receptor points.  <b>Practical 2:</b> <i>Computer laboratory:</i> Operation of basic controls of the AERMOD model, using prepared data sets. Operation of model for hourly, daily and annual averages. Generation of concentration of contour overlays on background maps.	Presenters to be announced 3.5 hours
	<b>Practical 2: - continuation.</b> Explore effects of varying grid spacing. Rectangular and polar grids, single receptor points. Explore effects of stack height, stack temperature on outputs to illustrate use of dispersion model as a planning support tool.  <b>Component 4:</b> Use of air dispersion models in preparation of applications for Air Emission Licences – laws, regulations and guidelines in South Africa. Presentation of selected case studies of dispersion modeling results for licence applications.	Presenters to be announced 3.5 hours
DAY 3:	<b>Component 5:</b> Limits and uncertainties associated with air dispersion models. Situations from which AERMOD is appropriate or inappropriate. Alternate models for complex terrain or regional scale, multi-day modelling.  <b>Practical 3:</b> Carry out a dispersion modelling assignment for use in support of an Air Emission Licence and prepare a brief report on the model predictions.	Presenters to be announced 3.5 hours
	<b>Component 6:</b> Open discussion, question and answer session. Further self-initiated exploration of model features (Facilitators available for guidance). Discussions case studies and approaches for dispersion modelling situations suggested by participants  <b>Component 7:</b> Course review and evaluation.	Presenters to be announced 3.5 hours