

# Workshop on parameter estimation and inverse modelling for atmospheric composition

## 22 to 24 October 2013

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### Timetable

#### Day 1: Tuesday 22 October

- 9:30 Welcome - Erland Kallen
- 9:45 Introduction - Richard Engelen/Vincent-Henri Peuch
- 10:15 *Coffee*
- 10:45 - 13:00 **Constraining surface models**
- 10:45 – 11:15 • The use of the CTESSEL land carbon model in the MACC-II CO<sub>2</sub> modelling system - *Anna Agusti-Panareda* (ECMWF)
- 11:15 – 11:45 • Process parameter optimisation in terrestrial carbon cycle models: the curse of the forecast - *Marko Scholze* (Lund University)
- 11:45 – 12:15 • From global to regional inverse modelling for greenhouse gases - *Frederic Chevallier* (LSCE)
- 12:15 – 12:45 • The interaction of scales between carbon cycling in the atmosphere and in the terrestrial biosphere - *Wouter Peters* (University of Wageningen)
- 12:45-13:00 • Discussion
- 13:00 – 14:00 *Lunch*
- 14:00 - 17:00 **Constraining surface models/ Optimizing surface emissions**
- 14:00 – 14:30 • Estimation of surface fluxes of carbon and heat from atmospheric data assimilation - *Eugenia Kalnay* (University of Maryland)
- 14:30 – 15:00 • Estimating emission rates of reacting constituents by variational inversion - *Hendrik Elbern* (University of Köln)
- 15:00 – 15:30 *Coffee*
- 15:30 – 16:00 • Estimating surface NO<sub>x</sub> and CO emissions and lightning NO<sub>x</sub> sources by assimilating satellite observations of multiple chemical species - *Kazuyuki Miyazaki* (JAMSTEC)
- 16:00 – 16:30 • Experiences with data assimilation and parameter estimation for air quality at TNO - *Martijn Schaap/Arjo Segers* (TNO)
- 16:30 – 17:00 • Discussion
- 17:15 *Ice breaker*

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#### Day 2: Wednesday 23 October

- 9:15 - 12:30     **Optimizing surface emissions/Constraining point sources**
- 9:15 – 9:45     • Use of 4D-VAR assimilation for emission source apportionment -  
*Mikhail Sofiev/ Julius Vira* (FMI)
- 9:45 – 10:15   • Volcanic plume modelling and assimilation in the MACC-II system -  
*Johannes Flemming* (ECMWF)
- 15:15 – 10:45   *Coffee*
- 10:45 – 11:15   • Source term determination for volcanic eruptions (and other point-source releases) - *Andreas Stohl* (NILU)
- 11:15 – 11:45   • Theoretical aspects of emission inverse modelling and parameter estimation with chemical transport models - *Marc Bocquet* (CEREA)
- 11:45 – 12:15   • High resolution modelling of fires within the Euro-Mediterranean region -  
*Jean-Baptiste Filippi* (University of Corsica)
- 12:15 – 12:45   • Discussion
- 12:45 – 13:00   • Working Group instructions and formulation
- 13:00 – 14:00   *Lunch*
- 14:00           Working Group discussions
- 17:30           *End of day 2*
- 19:30           *Workshop Dinner*

#### Day 3: Thursday 24 October

- 9:15 – 11:00     Working Group discussions
- 11:00 – 13:00   Reports from Working Groups
- 13:00 – 14:00     *Lunch*
- 14:00 – 15:00   Summary
- 15:00             *End of day 3*