



NitroEurope IP

General Assembly
&
Open Science Conference

Reactive Nitrogen and the European Greenhouse Gas Balance

Programme

Conference supported by



NitroEurope, Integrated Project (IP)
funded under the 6th Framework Programme
Priority 6.3 Global Change and Ecosystems



	NEU General Assembly		Science Conference		NEU Meetings
	Monday, Feb 18th	Tuesday, Feb 19th	Wednesday, Feb 20th	Thursday, Feb 21st	Friday, Feb 22nd
	08:30-09:30 SSC-Meeting <i>(meeting preparation)</i>	08:30-10:00 Cross-Component meetings	08:15-08:45 Registration	08:30-09:10 Keynote: S. Seitzinger	<ul style="list-style-type: none"> ○ 9:00-12:00: C1: Inferential models of N_r dry dep ○ 8:30-10:30: C4: Verification measurements. Specific experiments. ○ ~11:00-12:00: C4: NitroScape development. Model coupling (cont'd) ○ ~12:00-13:00: C4: wrap-up session
	09:00-09:45 Registration/Coffee		08:45-09:00 Opening & Welcome	09:10-09:50 Keynote: G. Billen	
	09:45-10:15 Plenary Opening & Welcome		09:00-09:40 Keynote: P. Hogberg		
10:00-10:30		Coffee/Tea	09:40-10:20 Keynote: P. Adams	Coffee/Tea (09:50-10:20)	
	10:15-13:00 Component meetings	10:30-13:00 Cross-Component meetings	11:00-13:00 Parallel Sessions	10:20-12:30 Parallel Sessions	
13:00-14:30	Lunch	Lunch	Lunch	Lunch (12:30-13:30)	
	14:30-16:00 Component meetings	14:30-16:00 Cross-Component meetings	14:30-16:00 Parallel Sessions	13:30-14:30 Parallel Sessions	
16:00-16:30	Coffee/Tea	Coffee/Tea	Coffee/Tea	Coffee/Tea (14:30-15:00)	
	16:30-18:00 Component meetings	16:30-18:30 NEU General Assembly	16:30-18:00 Parallel Sessions	15:00-17:15 Parallel Sessions	Free for meetings
				17:15-18:00 Wrap-up & Conclusions	
18:00-20:00	Reception (drinks, posters)		Reception & Poster Session (drinks)	18:00 End of the Conference	
20:00		NEU Joint Dinner	Conference Dinner	NEU EAG & SSC Meeting	
				Joint SSC & EAG Dinner	

Monday, Feb 18th, 2008

Room(space)	Vermeylen (50)	Blancquaert (40)	Infirmary (35)	Prior (35)	Press Conf. (28)	Dormitory (21)	Sacristy (18)
8:30-8:45	SSC Meeting Registration Plenary Opening/Welcome						
8:45-9:00							
9:00-9:15							
9:15-9:30							
9:30-9:45							
9:45-10:00							
10:00-10:15							
10:15-10:30	C1 (A1.3 & A1.4) Level 3 Flux measurement network: cross-cutting issues	C4 (A4.1) Inventory: progress and challenges	C5 (A5.2 with links to A5.4-A5.5) Assessment of past land cover reconstructions and future scenarios for European modelling	C2 (A2.2) ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: forest	C2 (A2.2) ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: arable land	C2 (A2.3) ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: shrublands	C2 (A2.4) ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: grasslands
10:30-10:45							
10:45-11:00							
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15							
12:15-12:30							
12:30-12:45							
12:45-13:00							
13:00-13:15	Lunch						
13:15-13:30							
13:30-13:45							
13:45-14:00							
14:00-14:15							
14:15-14:30							
14:30-14:45	C1 Flux measurements/Level 3 Part 1: Results from super site measurements, incl. contributions to reporting for the 2 nd annual report	C2 Summary from ecosystem specific sessions. Status for C2 – measurements and data collection.	C5 (A5.1) Development of harmonized datasets for European modelling	C3 (A3.1) Current status and uncertainties in plot scale models for Nr and GHG	C1 (A1.4) Plant & soil pools, processes and interaction:: presentations of current work	C4 (A4.2) Development of the NitroScape model and model coupling	C1 (A1.5) Level 1 Network Discussion of measurement inter-comparisons & papers
14:45-15:00							
15:00-15:15							
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15	Coffee/Tea						
16:15-16:30							
16:30-16:45	C1 Flux measurements/Level 3 Network Part 2: reporting	C2 Status for C2 – measurements and data collection, within- and cross ecosystem interactions and publications.	C5 (A5.4&5.5) A “protocol” for the assessment of Nr and GHG fluxes by detailed eco-system models and INTEGRATOR on a European scale	C3 (A3.3) Interpretation and simulation of existing flux measurements	C1 (A1.4) Plant & soil pools, processes and interaction: future work plan	C4 (A4.5) Scenario analysis	C6 Overview of activities and work plan
16:45-17:00							
17:00-17:15							
17:15-17:30							
17:30-17:45							
17:45-18:00							

All room spaces are given for U-shaped meeting room setup; in addition, we have the large auditorium available for ad hoc breakout groups in theatre setup

Tuesday, Feb 19th, 2008

Room (spaces)	Vermeyleen (50)	Blancquaert (40)	Infirmery (35)	Prior (35)	Press Conf. (28)	Dormitory (21)	Sacristy (18)
8:30-8:45	C1 (A1.1 & A1.3) Advanced micrometeorology method development for flux measurements	C4 and A5.3 Development of farm-scale agric models for landscapes & EU upscaling	C1 (A1.2) Level 2 Network: development and progress in low-cost methods: long term chamber measurements	C2 & C3 Model-experiment interactions. data requirements, model potentials and timing – Wetlands & Shrublands	C1 (A1.5) Inferential N fluxes (Level 1 Network) Discussion of measurements and results, data reporting + update on progress	C6 Verification activities and the role of inverse modelling	NEU Training & Education Discussion
8:45-9:00							
9:00-9:15							
9:15-9:30							
9:30-9:45							
9:45-10:00							
10:00-10:15	Coffee/Tea						
10:15-10:30	Coffee/Tea						
10:30-10:45	C1 (A1.2) Level 2 Network: development and progress in low-cost methods: micrometeorology	A7.2 with A3.1- 3.3, A4.4 and A6.3 Harmonizing use of ecosystem models at plot-landscape & regional scales: uncertainty protocols, & common scenarios	C2 & C1 Review and discussion of chamber techniques and problems related to measurements and calculations	C2 & C3 Model-experiment interactions. data requirements, model potentials and timing - Arable	C1 (A1.5) Inferential N fluxes (Level 1 Network) Continued + ideas for publication	C6 (A6.2) Inverse Modelling – detailed modelling plans	C1 + C4 (A4.3) Fluxes in heterogeneous conditions. Advection
10:45-11:00							
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15							
12:15-12:30							
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12:45-13:00							
13:00-13:15	Lunch						
13:15-13:30	Lunch						
13:30-13:45	Lunch						
13:45-14:00	Lunch						
14:00-14:15	Lunch						
14:15-14:30	Lunch						
14:30-14:45	C1 (all activities) Integration of the Level 1, 2 and 3 flux network delivery	A6.1 with A5.4, A5.5 Assessment of independent data-sets for Nr and GHG emissions and use of methods for upscaling	A1.4, A.1.3, C2, C4 Method advances to reduce key uncertainties inc. N ₂ denitrification, fix'n & off-site losses	C2 & C3 Model-experiment interactions. data requirements, model potentials and timing - Forest	C2 & C3 Model-experiment interactions. data requirements, model potentials and timing - Grasslands	A6.4 Verification of official inventories and improvement of IPCC methodology	EAG Closed meeting of the External Advisory Group
14:45-15:00							
15:00-15:15							
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15	Coffee/Tea						
16:15-16:30	Coffee/Tea						
16:30-16:45	Coffee/Tea						
16:45-17:00	Coffee/Tea						
17:00-17:15	General Assembly						
17:15-17:30	General Assembly						
17:30-17:45	General Assembly						
17:45-18:00	General Assembly						

All room spaces are given for U-shaped meeting room setup; in addition, we have the large auditorium available for ad hoc breakout groups in theatre setup

Monday, 10:15-13:00

- **C1 (A1.3 & A1.4) Level 3 Flux measurement network: cross-cutting issues**
Chair: Eiko Nemitz **Rapporteur:** tbc
- **C4 (4.1) Inventory: progress and difficulties**
Chair: Tommy Dalgaard **Rapporteur:** Kirsten Schelde
- **C5 (A5.2 with links to A5.4-A5.5) Assessment of past land cover reconstructions and future scenarios for European modelling**
Chair: Jagadeesh Yeluripati **Rapporteur:** Martha Bakker
Aim of the session is to have a final discussion on: (i) assumptions related to past land cover reconstructions by the CLUE model and (ii) the scenarios, the measures and its parameterization to be evaluated by the detailed ecosystem models and INTEGRATOR for European modelling. Specific objectives of this session are to reach consensus on the (see actions defined at the last C5 meeting in Arnhem, 2007):
 - Scenarios to be evaluated by the detailed ecosystem models (all 6 scenarios as with INTEGRATOR or a limited number).
 - Measures and its parameterization to be evaluated by the detailed ecosystem models and INTEGRATOR and come up with a short list which can be handled by all models for intercomparison.*Discussion items & Contributions invited on*
 - Reconstruction and future modelling of land use with CLUE: (A5.2) (Martha Bakker)
 - Scenarios/ policies to be evaluated in NEU; potential evaluations by INTEGRATOR vs detailed ecosystem models (A5.2; A5.4, A5.5) (Lex Bouwman; Wim de Vries)
 - Packages of management measures to mitigate GHG emissions and N losses; discussion on their use by INTEGRATOR vs detailed ecosystem models (A5.2; A5.4, A5.5) (Gerard Velthof; Jagadeesh Yeluripati)
- **C2 (A2.2) Ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: forest**
Chair: Per Gundersen **Rapporteur:** tbc
- **C2 (A2.2) Ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: arable land**
Chair: Bruce Ball **Rapporteur:** tbc
- **C2 (A2.3) Ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: shrublands**
Chair: Claus Beier **Rapporteur:** tbc
- **C2 (A2.4) Ecosystem specific presentations and data discussions, review of measurements and data for each site - ideas for publications & scientific outcome: grasslands**
Chair: J.F. Soussana **Rapporteur:** tbc

Monday, 14:30-16:00

- **C1 Flux measurements/Level 3 Part 1: Results from super site measurements, incl. contributions to reporting for the 2nd annual report**
Chair: Ute Skiba **Rapporteur:** Nick Brueggemann

- **C2 Summary from ecosystem specific sessions. Status for C2 – measurements and data collection.**
Chair: Claus Beier **Rapporteur:** tbc

- **C5 (A5.1) Development of harmonized datasets for European modelling**
Chair: Adrian Leip **Rapporteur:** M. P-Soba

Aim of the session is to have a final discussion on of harmonized datasets for: (i) environmental data, focusing on the meteorological dataset and (ii) agricultural data focusing on the livestock data to assess excretion and manure inputs and on crop rotation assessments. Objective is to reach consensus on the:

- livestock downscaling method and crop rotation method to be used.
- inclusion of N deposition in detailed ecosystem models and INTEGRATOR.
- Assignment of soil data on a European scale, including its uncertainties.
- Assessment of crop rotations and timing of management actions
- Meteorological dataset

Discussion items & contributions invited on

- Methods to downscale and validate livestock data using the CLUE model (Marta Perez Soba).
- Assessment of High resolution nitrogen deposition (Albert Bleeker).
- Assignment of soil properties and their uncertainties to be evaluated by INTEGRATOR and detailed ecosystem models (Gert Jan Reinds).
- Assessment of crop rotations and timing of management actions as a driver for detailed ecosystem modelling (Pete Smith).
- If time avails: Use of a consistent meteorological dataset in NEU for the period 1900-2100 (Adrian Leip).

- **C3 (A3.1) Current status and uncertainties in plot scale models for Nr and GHG**

Chair: Klaus Butterbach-Bahl **Rapporteur:** Pierluigi Calanca

This session will provide an overview about on-going developments of NitroEurope core and associated models (e.g. BASFOR, CERES, DayCENT, COUP, DNDC, SunDial, PaSIM). This includes reporting about experiences when using BC techniques, discussions about technical issues such as version controls, accessibility of models, central data management and sharing of expertise (online model user groups) and the definition of upcoming tasks and responsibilities

- **C1 (A1.4) Plant & soil pools, processes and interaction:: presentations of current work**
Chair: Sophie Zechmeister-B. **Rapporteur:** Ilaria Del Galdo

- **C4 (4.2) Development of the NitroScape model and model coupling**
Chair: Pierre Cellier **Rapporteur:** Lutz Breuer

- **C1 (A1.5) Level 1 Network - Discussion of measurement inter-comparisons & papers**
Chair: Sim Tang **Rapporteur:** Sonja Vidic

Monday, 16:30-18:00

- **C1 Flux measurements/Level 3 Network Part 2: reporting**
Chair: Ute Skiba **Rapporteur:** Nick Brueggemann
- **C2 Status for C2 – measurements and data collection, within- and cross ecosystem interactions and publications.**
Chair: Claus Beier **Rapporteur:** tbc
- **C5 (A5.4&5.5) A “protocol” for the assessment of Nr and GHG fluxes by detailed eco-system models and INTEGRATOR on a European scale**
Chair: Hans Kros **Rapporteur:** Michael Obersteiner
Aim of the session is to discuss aspects that affect the inputs to and application of both detailed ecosystem models and INTEGRATOR. Specific objectives are to reach consensus on the inter-comparison between the detailed ecosystem models and INTEGRATOR.
Discussion items & Contributions invited on
 - A “protocol” on the inter-comparison between the detailed ecosystem models and INTEGRATOR (Wim de Vries/ Hans Kros/Klaus Butterbach, Pete Smith).Since a major tasks will be to decide on the "protocol" for the first model-application/intercomparison regarding models involved, inputs to be used, timeline and results to be compared etc and since the outcome should be very concrete, we imagine that this could use the whole 90 min
- **C3 (A3.3) Interpretation and simulation of existing flux measurements**
Chair: Pierluigi Calanca **Rapporteur:** Ralf Kiese
- **C1 (A1.4) Plant & soil pools, processes and interaction: future work plan**
Chair: Sophie Zechmeister-B. **Rapporteur:** Ilaria Del Galdo
- **C4 (A4.5) Scenario analysis**
Chair: Joergen Olesen **Rapporteur:** Jean-Louis Drouet
- **C6 - Overview of activities and work plan**
Chair: Jan Willem Erisman **Rapporteur:** Albert Bleeker

Tuesday, 8:30-10:00

- **C1 (A1.1 & A1.3) Advanced micrometeorology method development for flux measurements**
Chair: Eiko Nemitz **Rapporteur:** Jan Duyzer
- **C4 and A5.3 Development of farm-scale agric models for landscapes & EU upscaling**
Chair: Joergen Olesen **Rapporteur:** Uli Dragosits
Assessing annual N application rates by manure and fertilizer at NCU level
Includes a review of the
 - current procedures in INTEGRATOR concerning manure distribution, fertilizer use, down scaling crop type etc.
 - distribution of pig and poultry manure
 - need for characterization of farm typologies and - use of SEAMLESS data for validation
- **C1 (A1.2) Level 2 Network: development and progress in low-cost methods: long term chamber measurements**
Chair: Ute Skiba **Rapporteur:** Nick Brueggemann
- **C2 & 3 Model-experiment interactions, data requirements, model potentials and timing – Wetlands & Shrublands**
Chair: Claus Beier **Rapporteur:** Klaus Butterbach-Bahl
Based on discussions at a workshop in Garmisch in November 2007, the ecosystem specific working groups will focus on discussing how measurements and modeling can be most effectively combined. Topics to be addressed are:
 - which model will be used for the different ecosystem types (incl. a general outline)
 - what is the status of the model (including e.g. demonstration of simulation results) and which further developments are needed
 - what information is required to run the model for a specific site (including feedback of C2 with regard to the status of data submission or how missing parameters might be obtained)
 - what are the expectations of the C2 community with regard to the model applications to their site, i.e. specific research questions (e.g. exploring long-term effects of N deposition, climate change or land use change)
- **C1 (A1.5) Inferential N fluxes (Level 1 Network) - Discussion of measurements and results, data reporting + update on progress**
Chair: Sim Tang **Rapporteur:** Sonja Vidic
 - DELTA measurements: Collating and finalising the first years measurement results
 - Bulk deposition network: progress on establishment of network
 - SVAT Modelling framework: data requirements and progress
- **C6 (A6.2) Inverse Modelling – detailed modelling plans**
Chair: Peter Bergamaschi **Rapporteur:** Alex Vermeulen
- **NEU Training & Education Discussion**
Chair: Stefan Reis **Rapporteur:** Arjan Hensen

Tuesday, 10:30-13:00

- **C1 (A1.2) Level 2 Network: development and progress in low-cost methods: micrometeorology**
Chair: Eiko Nemitz **Rapporteur:** Jan Duyzer
- **A7.2 with A3.1- 3.3, A4.4 and A6.3 Harmonizing use of ecosystem models at plot-landscape & regional scales: uncertainty protocols & common scenarios**
Chair: Wim de Vries **Rapporteur:** Marcel van Oijen
Within in NitroEurope GIS coupled ecosystem models are used for simulating GHG fluxes and changes in ecosystem C/N stocks at landscape as well as on European or even global scales. Aim of the session is to finalize the discussion on “Modelling and uncertainty protocols”, to discuss guidelines for approaches used to deal with uncertainties on a plot scale and landscape/regional scale, to exchange existing knowledge obtained by different regional applications within previous and on-going projects and to outline joined publication(s) comparing already existing approaches and inventories.
Discussion items & Contributions invited on:
 - Guidelines for uncertainty quantification of input data on a regional scale for both INTEGRATOR and detailed ecosystem models (Gerard Heuvelink).
 - Progress in Modelling and uncertainty protocols and in UQ approaches for: (i) bottom-up process based modelling, (ii) upscaling of independent measurements and (iii) top-down inverse modelling (Marcel van Oijen).
 - Approaches used to deal with uncertainties on various scales (plot/landscape/regional scale). Various modellers: to be invited
- **C2 & C1 Review and discussion of chamber techniques and problems related to measurements and calculations**
Chair: Ute Skiba **Rapporteur:** Nick Brueggemann
- **C2 & 3 Model-experiment interactions. data requirements, model potentials and timing - Arable**
Chair: Klaus Butterbach-Bahl **Rapporteur:** tbc
Based on discussions at a workshop in Garmisch in November 2007, the ecosystem specific working groups will focus on discussing how measurements and modeling can be most effectively combined. Topics to be addressed are:
 - which model will be used for the different ecosystem types (incl. a general outline)
 - what is the status of the model (including e.g. demonstration of simulation results) and which further developments are needed
 - what information is required to run the model for a specific site (including feedback of C2 with regard to the status of data submission or how missing parameters might be obtained)
 - what are the expectations of the C2 community with regard to the model applications to their site, i.e. specific research questions (e.g. exploring long-term effects of N deposition, climate change or land use change)
- **C1 (A1.5) Inferential N fluxes (Level 1 Network) Continued + ideas for publication**
Chair: Sim Tangi **Rapporteur:** Sonja Vidic

- **C6 (A6.2) Inverse Modelling – detailed modelling plans (continued)**
Chair: Peter Bergamaschi **Rapporteur:** Alex Vermeulen
- **C1 + C4 (A4.3) Fluxes in heterogeneous conditions. Advection**
Chair: Benjamin Loubet **Rapporteur:** Mark Theobald

Tuesday, 14:30-16:00

- **C1 (all activities) Integration of the Level 1, 2 and 3 flux network delivery**
Chair: Ute Skiba **Rapporteur:** Eiko Nemitz
- **A6.1 with A5.4, A5.5 Assessment of independent data-sets for Nr and GHG emissions and use of methods for upscaling**
Chair: Albert Bleeker **Rapporteur:** Ralf Kiese
Aim of the session is to finalize the discussion on the gathering of data sets and methods for upscaling the data. Specific objectives are to reach consensus on (see minutes C5/C6 Arnhem 2007):
 - A co-ordinated approach for data retrieval (common database structure depending on the type and resolution of data used) with actions and specific contributions for each partner in this activity.
 - Geostatistical approaches for upscaling of point data*Discussion items & Contributions invited on*
 - Model verification based on independent datasets (Albert Bleeker).
 - Geostatistical approaches for upscaling of point data; Model-based upscaling with regression kriging of annual N₂O emissions for Europe (Gerard Heuvelink).
- **A1.4, A.1.3, C2, C4 Method advances to reduce key uncertainties inc. N₂ denitrification, fix'n & off-site losses**
Chair: Nick Brueggemann **Rapporteur:** tbc
- **C2 & 3 Model-experiment interactions. data requirements, model potentials and timing – Forest**
Chair: Klaus Butterbach-Bahl **Rapporteur:** Per Gundersen
Based on discussions at a workshop in Garmisch in November 2007, the ecosystem specific working groups will focus on discussing how measurements and modeling can be most effectively combined. Topics to be addressed are:
 - which model will be used for the different ecosystem types (incl. a general outline)
 - what is the status of the model (including e.g. demonstration of simulation results) and which further developments are needed
 - what information is required to run the model for a specific site (including feedback of C2 with regard to the status of data submission or how missing parameters might be obtained)
 - what are the expectations of the C2 community with regard to the model applications to their site, i.e. specific research questions (e.g. exploring long-term effects of N deposition, climate change or land use change)
- **C2 & 3 Model-experiment interactions. data requirements, model potentials and timing - Grasslands**
Chair: Perluigi Calanca **Rapporteur:** JF Soussana
Based on discussions at a workshop in Garmisch in November 2007, the ecosystem specific working groups will focus on discussing how measurements and modeling can be most effectively combined. Topics to be addressed are:
 - which model will be used for the different ecosystem types (incl. a general outline)
 - what is the status of the model (including e.g. demonstration of simulation results) and which further developments are needed
 - what information is required to run the model for a specific site (including feedback of C2 with regard to the status of data submission or how missing parameters might be obtained)
 - what are the expectations of the C2 community with regard to the model applications to their site, i.e. specific research questions (e.g. exploring long-term effects of N deposition, climate change or land use change)

- **A6.4 Verification of official inventories and improvement of IPCC methodology**

Chair: Andre van Amstel **Rapporteur:** tbc

Note: This session will begin jointly with A6.1 and then continue the meeting as a breakout-group; contact the chairs for more information

- **EAG - Closed meeting of the External Advisory Group**

Chair: Peringe Grennfelt **Rapporteur:** Till Spranger

NitroEurope Open Science Conference
Reactive Nitrogen and the European Greenhouse Gas Balance
Wednesday, Feb 20th, 2008

	08:15-08:45 Registration			
	08:45-09:00 Opening & Welcome			
	09:00-09:40 Keynote: Peter Hogberg			
	09:40-10:20 Keynote: Peter Adams			
	Session 1 Flux measurements of reactive nitrogen, pools and processes (Chair: Mark Sutton)		Session 4 Upscaling from plot to regional scales – analysing interactions on different spatial scales (Chair: Pierre Cellier)	
11:00-13:00	Introduction		Introduction	
	Biosphere atmosphere exchange of reactive N and greenhouse gases at the NitroEurope core measurement sites: A synthesis of the first annual data set.	Skiba U., Nemitz E., Vesala T., Ambus P., Brüggemann N., Hensen A., Duyzer J., Cellier P., Freibauer A., Magliulo A., Seufert G., Neftel A., Horvath L., Zechmeister-Boltenstern S., Cotrufo M.F., Tang Y.S., Sutton M.A.	Biosphere-atmosphere fluxes of reactive nitrogen at the landscape scale	Dragosits U., Dalgaard T., Olesen J.E., Hertel O., Bleeker A., Kros H., Theobald M.R., Cellier P., Durand P., Loubet B., Sutton M.A.
	Chamber and eddy-covariance measurements of greenhouse gas fluxes on a sedge fen in northern Finland	Lohila A., Aurela M., Hatakka J., Minkkinen K., Penttilä T., Laurila T.	Soil-atmosphere exchange of N ₂ O, CO ₂ and CH ₄ along a slope of a monsoon evergreen broadleaved forest in southern China	Fang Y., Gundersen P., Zhang W., Christiansen J.R., Mo J.
	An automatic chamber system for simultaneously measuring fluxes of N ₂ O, NO and CH ₄ emissions/uptake and net ecosystem CO ₂ exchange (NEE)	Zheng X., Wang Y., Liu G., Liu C., Li M., Liang W., Wang Y.	Source-receptor coupling of atmospheric NH ₃ using OPS-ST	Frumau K.F.A., Hensen A., Bleeker A., van Pul W.A.J., van den Broek M.
	A mini-wedge gradient system for measuring ammonia fluxes	Loubet B., Decuq C., Personne E., Ferrara R., Massad R.S. Fanucci O., Génemont S.	Importance of indirect nitrous oxide emission at the field, farm and catchment scales	Reay D.S., Edwards A.C., Smith K.A.
	Bidirectional NH ₃ fluxes over intensively managed grassland - one year of measurements at Oensingen, Switzerland	Spirig C. and Flechard C.	Modelling of organic and inorganic nitrogen dynamics across ecosystem spheres	Vaché K.B. and Breuer L.
Lunch				
14:30-16:00	Session 1 continued		Session 4 continued	
	Results on a flux measurement campaign at a drained peatland pine forest in Southern Finland	Pihlatie M., Vesala T., Mammarella I., Kieloaho A.-J., Laurila T., Aurela M., Minkkinen K., Penttilä T., Zechmeister-Boltenstern S., Schoenborn J., Kiese R., Butterbach-Bahl K., Brüggemann N.	The influence of spatial resolution of land cover data on N ₂ O emission inventories	Nol L., Verburg P.H., Heuvelink G.B.M.
	Role of the Soil Organic Matter pool in nitrate leaching	Sebilo M., Billen G., Nicolardot B., Mary B., Mayer B. & Mariotti A.	Scaling up from farm to landscape – methods to model farm Nitrogen balances in European landscapes	Dalgaard T., Dragosits U., Happe K., Hutchings N., Olesen J.E., Cellier P., Drouet J.L., Bleeker A., et al.
	Nitrogen Pollution Swapping in Grassland Buffer Strips: Nitrous oxide emissions from simulated buffer strip and control grassland plots, Northumberland, U.K	McAuley W., Reay D., Heal K.V., Smith K.	Session 6 Verification and uncertainty assessment of N and GHG management across disciplines (Chair: Jan Willem Erisman)	
	Greenhouse Gas Emissions from Crop Production Systems and Fertilizer Management Effects	Snyder C.S., Bruulsema T.W., Jensen T.L., Fixen P.E.	Introduction	
		Inverse modelling of European CH ₄ and N ₂ O emissions	Bergamaschi P., Vermeulen A., Manning A., Bousquet P., Heimann M.	
Coffee/Tea				
16:30-18:00	Session 1 continued		Session 6 continued	
	Application of reactive N measurements in a low-cost inferential network across Europe	Tang Y.S., van Dijk N., Simmons I., Daemmgen U., Djuricic V., Vidic S., Zlatica G., Mitosinkova M., Uggerud T.H., Sanz M.J., Sanz P., Chorda J.V., Ferm M., Perrino C., Sutton M.A.	Modeling Global N ₂ O Emissions from Agricultural Land with DNDC	Li C., Frohling S., Bouwman A.F., Zheng X., Butterbach Bahl K.
	Towards a Generalised Parametrisation of Bi-directional Ammonia Exchange	Nemitz E., Flechard C., Famulari D., Sutton M.A.	Statistical upscaling of terrestrial greenhouse gas emissions	Heuvelink G.B.M., Kros J., de Vries, W.
	Five years of C and N budgets in managed grassland systems	Ammann C. and Neftel A.	Nitrous oxide emissions, their uncertainty and a way to decrease the uncertainty in its implementation in the GAINS model	Winiwarter W., Bertok I., Amann M.
	Discussion		Discussion	

Thursday, Feb 21st, 2008

	08:30-09:10 Keynote: Sybil Seitzinger			
	09:10-09:50 Keynote: Gilles Billen			
	Session 3 Plot scale modelling of processes controlling the biosphere-atmosphere exchange of trace gases to predict effects of changes in climate, land use and land management on gas exchange of C and N compounds (<i>Chair: Klaus Butterbach-Bahl</i>)		Session 2 Impacts of changes in external drivers (global change, N deposition, management, land use change etc.) on fluxes and exchange of N, C and GHG in terrestrial ecosystems (<i>Chair: Claus Beier</i>)	
	Introduction		Introduction	
10:20-12:30	Bayesian calibration of the nitrous oxide module of an agro-ecosystem model	Lehuger S., Gabrielle B., van Oijen M.	Multi isotope approach as a promising tool to investigate the impact of anthropogenic nitrogen pollutants released in the atmosphere	Battipaglia G., Marzaioli F., Altieri S., Lubritto S., Strumia S., Cotrufo M.F.
	Simulating the effects of management and climate variability on grass/clover interactions and the N turnover in a temperate grassland ecosystem	Lazarotto P. and Calanca P.	Fungal to bacterial ratio and pulse N2O emission from soils	Blagodatskaya E.V., Blagodatsky S.A., Dannenmann M., Butterbach-Bahl K.
	Frost related N2O emission bursts can be explained by microbial behaviour alone: a modelling approach	de Bruijn A., Butterbach-Bahl K., Grote R.	A modified helium incubation method for fast measurement of actual N2O and N2 losses of soils and sediments	Augustin J., Steffens L., Brozyna M., Grossmann B.
	The new denitrification module in the bio-physical process model EPIC	McGill W.B., Izaurralde R.C., Williams J.R., Schwab D.E.	Nitrogen cycling and emissions in cropping systems under organic farming	Olesen J.E., Rees R.M., Klemmedsson L., Topp C.F.E., Chirinda N., Watson C.A., Ball B.C., Petersen S.O., Stenberg M., Norman J., Klemmedsson A.A.
	Adapting the mechanistic model Volt'Air to model ammonia volatilisation from industrial fertilisers applied to bare soil as related to chemical and biological processes at the soil surface	Le Cadre E., Générmont S., Bedos C., Recous S., Cellier P.	Influence of crop rotation and tillage on GHGs fluxes in a intensive managed cropland in North Italy.	Alberti G., Delle Vedove G., Carfora A., Castaldi S., Zuliani M., Peressotti A.
	Lunch			
	Session 3 cont.		Session 2 cont.	
13:30-14:30	Processes and factors controlling N2O emission from soil: the MiCNIT model	Blagodatsky S.A., Grote R., Kiese R., Butterbach-Bahl, K.	Do increased CO2 concentrations affect the availability of N in a mature temperate forest?	Schleppi P., Hagedorn F., Bucher I., Koerner C.
	Modelled and measured ammonia concentrations over The Netherlands - The effect of dry deposition parameterization	van den Broek M.M.P., Sauter F., van Pul W.A.J., van Jaarsveld H.	Impact of clear-cutting and selective cutting on the soil-atmosphere greenhouse gas exchange of an N-saturated spruce forest in the course of its conversion to a mixed deciduous forest	Brueggemann N., Gasche R., Papen H., Thiel S., Willibald G., Butterbach-Bahl K.
	Discussion		Denitrification and N2O losses in a heath-land under changing climate conditions	Ambus P., Priemé A., Carter M.S., Albert K., Larsen K.S., Andersson M., Beier C.
Coffee/Tea				
	Session 5 Assessment of nitrogen and greenhouse gas fluxes in response to human influence at large		Session 2 cont.	
15:00-17:15	Introduction		The effect of increased nutrient availability on the greenhouse gas exchange in nutrient poor peatlands	Lund, M., Stroem, L., Christensen, T.R., Lindroth, A.
	Using an Integrative Modelling System to evaluate land use and management options in a multi-policy context	Schmid E. and Schwab D.E.	Effects of different nitrogen forms, ammonia gas and wet deposited ammonium and nitrate, on methane and nitrous oxide emissions from an ombrotrophic bog, whim moss, in the scottish borders.	Sheppard L.J., Leith I.D., Rung M., Van Dijk N., Field C., Skiba U.
	Nitrous oxide (N2O) in the Seine River: factors controlling the emissions and budget	Garnier J., Mounier E., Billen G., Sebilo M., Silvestre M., Laverman A., Martinez A.	Modelling the ammonia stomatal compensation point in relation to the plant nitrogen and carbon metabolism	Massad R.S., Tuzet A., Loubet B., Cellier P.
	Fast environmental impact assessment with the DNDC EUROPE/CAPRI metamodel	Britz W. and Leip A.	N2O release from biofuel production can increase global warming	Smith K. A., Crutzen P. J., Mosier A. R., Winiwarter W.
	Integral assessments of GHG and N emissions from livestock systems in EU-27	Oenema O., Oudendag D., Velthof G.L.		
	Assessment of nitrogen and greenhouse gas fluxes at the European scale in response to land use and land management change	de Vries W., Kros J., Reinds G.J., Wieggers H.J.J., Velthof G.L., Oudendag D.A., Perez Soba M., de Winter W.P., Bakker M., Eikhout B., Bouwman A.F.		
Discussion				
Wrap-up and conclusions (reporting back from sessions)				

Friday, Feb 22nd, 2008

- **C1:**
 - **9:00-12:00:** C1 Inferential models of N_r dry deposition
(*Chair:* Eiko Nemitz)
- **C4:**
 - **8:30-10:30:** C4 Verification measurements. Specific experiments.
(*Chair:* Mark Theobald; *Rapporteur:* Arnoud Frumau)
 - **~11:00-12:00:** C4 NitroScape development. Model coupling (cont'd)
(*Chair:* Jean-Louis Drouet; *Rapporteur:* Patrick Durand)
 - **~12:00-13:00:** C4 wrap-up session