

## Background and Aim

The Kyoto Protocol committed the EU member states to an 8 % reduction in the emission of greenhouse gases (GHG) by 2008 to 2012 relative to 1990. To achieve this, mitigation options within all sectors of society - including the agricultural sector - must be explored.

The agricultural sector causes about 25 %, 65 % and 90 % of anthropogenic global CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions, respectively, and has a wide influence on NH<sub>3</sub> and NO emissions. Main sources of GHG emissions are N<sub>2</sub>O emissions from soils, N<sub>2</sub>O and CO<sub>2</sub> emissions from cultivated organic soils, CH<sub>4</sub> emissions from enteric fermentation and CH<sub>4</sub> and N<sub>2</sub>O emissions from manure management. The reduction of these GHG emissions could be realised by different measures and strategies.

Against this background it is the goal of the conference to provide a forum to discuss mitigation options and strategies for GHG emissions from agriculture in Europe. Therefore, region and system specific GHG mitigation measures and strategies for organic and conventional agricultural production in Europe will be discussed. Technical, management-related and systemic mitigation options will be identified, analysed and assessed e. g. by their GHG mitigation efficiency, their environmental trade-offs and their socio-economic implications. Based on these results, cost-effective strategies on a farm and regional level will be recommended. Additionally, gaps of knowledge, open questions, data needs and future research tasks as well as political constraints will be identified.

The conference will provide farmers, scientists and stakeholders a forum for the discussion and the assessment of GHG mitigation options and strategies in European agriculture as well as their implementation.

This conference is part of the MIDAIR project. This EU funded project joins 17 institutions in 11 European countries and focuses on organic and conventional dairy production, which is responsible for the highest GHG emissions within the agricultural sector.

## Call for Posters

Abstracts for posters (max. 500 words) will be accepted until 30 November 2003. For publication in the Conference Proceedings please send 2 pages (see template on [www.ie-leipzig.de/midair.html](http://www.ie-leipzig.de/midair.html)) to [Achim.Weiske@ie-leipzig.de](mailto:Achim.Weiske@ie-leipzig.de) by 15 December 2003.

## Place of Venue

The conference will take place at the "Neues Rathaus" (New City Hall) of the City of Leipzig, Martin-Luther-Ring 4-6, D-04109 Leipzig. The "Neues Rathaus" is located in the centre of the city and can easily be reached by public transport. It is within walking distance of the main station. A location plan will be provided with the confirmation of registration.

## Registration and Conference Fee

**For registration, please use the attached form.**

The conference fee is **190 €** (students **145 €**) and covers all presentations, Conference Proceedings, coffee breaks and meals (3 × lunch, 2 × dinner).

**Registration and payment deadline is  
31 December 2003**

The conference fee is 250 € for late registration after 31 December 2003. Registrations are transferable.

### Please transfer the conference fee to

Deutsche Bank AG  
Bank Code (Bankleitzahl; BLZ) 860 700 00  
Account Nr. 1381086  
BIC-Code DEUTDE8L; IBAN DE918607000001381086  
Please note necessarily the following code word on the remittance slip **"Greenhouse Gas Emissions"**

## Hotel Reservation

We recommend to book your hotel room via Leipzig Tourist Service e. V., Richard-Wagner-Straße 1, Leipzig  
Phone / Fax: +49 (0)341-71042-60 / 76; e-mail: [lipsia@aol.com](mailto:lipsia@aol.com),  
the official tourist partner of Leipzig.

A limited number of hotel rooms (3 categories) are reserved to the conference participants if you book before 31 January 2004.  
All listed hotels are in walking distance of the conference location.

### For any further questions please contact:

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[www.ie-leipzig.de](http://www.ie-leipzig.de)



Stadt Leipzig



International Conference

# Greenhouse Gas Emissions from Agriculture - Mitigation Options and Strategies

## Preliminary Programme

10 - 12 February 2004

"Neues Rathaus" Leipzig / Germany



## Preliminary Programme

### Tuesday, 10 February 2004

#### Opening of the conference

Welcome Address

- 11<sup>00</sup> H. Tschense (City of Leipzig)  
11<sup>10</sup> M. Lückemeyer (German Ministry of Agriculture)  
11<sup>30</sup> D. Debey (EU)  
11<sup>50</sup> GHG emissions from agriculture  
A. Gumbert (invited) (EU)  
12<sup>30</sup> *Lunch break*

#### GHG emissions from arable land and pastures

- 13<sup>30</sup> Importance of agricultural soils for the European GHG budget  
A. Freibauer (MPI-BGC, Jena, Germany)  
14<sup>00</sup> Nitrous oxide emissions from organic and conventional crop rotations in Europe  
K. Regina (MTT, Jokioinen, Finland)  
14<sup>20</sup> Soils as sources of N-trace gases in Germany  
C. Werner (IMK-IFU, Garmisch-Partenkirchen, Germany)  
14<sup>40</sup> Annual greenhouse gas balance of managed grasslands: First results from the GreenGrass project  
J.-F. Soussana (INRA, Clermont-Ferrand, France)  
15<sup>00</sup> Trace gas fluxes (N<sub>2</sub>O, CH<sub>4</sub>) of two different cropping systems of organic farming  
A. Model (SLfL, Leipzig, Germany)  
15<sup>20</sup> *Coffee break, posters*

#### GHG emissions from animal housing, manure management and storage techniques

- 16<sup>30</sup> Main principles of GHG abatement strategies for animal houses, storage and manure management  
G.-J. Monteny (WUR, Wageningen, The Netherlands)  
17<sup>00</sup> Measurement of GHG emissions from dairy manure stores  
R. Sneath (SRI, Bedford, United Kingdom)  
17<sup>20</sup> Methane and nitrous oxide emission measurements downwind from a farm  
A. Hensen (ECN, Petten, The Netherlands)  
17<sup>40</sup> GHG emissions from covered slurry compared with uncovered during storage  
W. Berg (ATB, Potsdam, Germany)  
18<sup>00</sup> Nitrous oxide emissions from dung heaps measured by static chambers and plume methods  
U. Skiba (CEH, Edinburgh, United Kingdom)  
19<sup>00</sup> *Reception with buffet*

### Wednesday, 11 February 2004

#### GHG reduction measures and technologies

- 9<sup>00</sup> Greenhouse gas emission reduction measures and technologies  
D. Chadwick (IGER, Okehampton, United Kingdom)  
9<sup>30</sup> Nitrous oxide emissions from grazed grassland: effects of cattle management and soil conditions  
S.O. Petersen (DIAS, Tjele, Denmark)  
9<sup>50</sup> Quantification of N transformation rates and the mechanisms of N<sub>2</sub>O production and emission in an old grassland soil  
C. Müller (DPE, Giessen, Germany)  
10<sup>10</sup> Impact of fermented organic fertilizers on trace gas emissions and denitrifying soil bacterial communities in organic farming systems  
K. Schauss (IAM, Giessen, Germany)  
10<sup>30</sup> *Coffee break, posters*  
11<sup>10</sup> Methane, nitrous oxide and ammonia emissions during storage and after application of dairy cattle slurry and influence of slurry treatment  
B. Amon (ILUET, Wien, Austria)  
11<sup>30</sup> Greenhouse gas mitigation by anaerobic digestion  
J. Clemens (IPN, Bonn, Germany)  
11<sup>50</sup> Anaerobic digestion of maize, grass and animal manures: influence of nutrient composition on methane production  
T. Amon (ILUET, Wien, Austria)  
12<sup>10</sup> Balancing of greenhouse gas emissions and economic efficiency for biogas-production through co-fermentation of slurry with organic waste  
S. Wulf (IPN, Bonn, Germany)  
12<sup>30</sup> *Working Lunch (including poster session)*  
14<sup>30</sup> Innovative ventilation strategies for pig houses to reduce greenhouse gas emissions  
A. Häußermann (IAE, Stuttgart-Hohenheim, Germany)  
14<sup>50</sup> Effect of nitrification inhibitors on nitrous oxide emission - results from field experiments with injected cattle slurry and with mineral fertiliser  
K. Dittert (IPNSS, Kiel, Germany)  
15<sup>10</sup> The effect of varying levels of coconut oil on methane output from continental cross beef heifers  
E. Jordan (DASP, Dublin, Ireland)  
15<sup>30</sup> Medium-chain fatty acids and their potential to reduce enteric methane emission of domestic ruminants  
A. Machmüller (SRSA, Armidale, Australia)  
15<sup>50</sup> Mitigation measures of GHG emissions for European dairy farms  
A. Weiske (IE, Leipzig, Germany)  
16<sup>10</sup> *Coffee break, posters*

#### Derivation of emission factors for and modelling of GHG emissions

- 16<sup>50</sup> The development of the EMEP/CORINAIR Guidebook with respect to the emissions of different C and N species from animal production  
U. Dämmgen (FAL, Braunschweig, Germany)  
17<sup>20</sup> Evaluating greenhouse gas emissions from European conventional and organic dairy farms using a whole-farm model  
J.E. Olesen (DIAS, Tjele, Denmark)  
17<sup>40</sup> Evaluation of potential mitigation options for reducing nitrous oxide emissions from pastoral soils in New Zealand  
C.A.M. de Klein (AgResearch-LEM, Mosgiel, New Zealand)  
18<sup>00</sup> Modelling regional GHG emissions from farm production and agricultural soils with EFEM-DNDC  
H. Neufeldt (IE, Leipzig, Germany)  
19<sup>00</sup> *Conference dinner*

### Thursday, 12 February 2004

#### GHG emission reduction strategies and their assessment

- 9<sup>00</sup> Assessment and mitigation of greenhouse gas emissions at farm level  
Oene Oenema (WUR, Wageningen, The Netherlands)  
9<sup>30</sup> Quantitative effects of high-C additives on GHG emissions from Farm Yard Manure  
S. Yamulki (IGER, Okehampton, United Kingdom)  
9<sup>50</sup> Greenhouse gas emission reduction via centralized biogas co-digestion plants in Denmark  
L.H. Nielsen (RISOE, Roskilde, Denmark)  
10<sup>10</sup> Impacts of an (un-)healthy human nutrition especially with animal food on greenhouse gas emissions from the total (non-)sustainable system nutrition  
K. Isermann (BNLA, Hanhofen, Germany)  
10<sup>30</sup> *Coffee break, posters*  
11<sup>10</sup> Mitigation strategies of GHG emissions from European dairy regions  
A. Vabitsch (IER, Stuttgart, Germany)  
11<sup>30</sup> Greenhouse gas balance and assessment of emission mitigation options for an intensive grazing livestock farm in Brittany  
S. Saletes (INRA, Clermont-Ferrand, France)  
11<sup>50</sup> Incomplete information and impacts on strategies for the abatement of greenhouse gas emissions from agriculture  
B. Osterburg (FAL, Braunschweig, Germany)  
12<sup>10</sup> Conclusions conducted by J.E. Olesen  
13<sup>00</sup> *Lunch*

#### End of the conference