

**12.30 Risk mapping of potential sulphur deficiency in agriculture under actual and future climate scenarios in Germany**  
KNUT HARTMANN, HOLGER LILIENTHAL & EWALD SCHNUG (Julius Kuehn Institute, Braunschweig, Germany)

**12.50 Lunch**

**14.00 *Invited speaker***  
**The role of interactions between plant dynamics and a spatially and temporally fluctuating environment - lessons from aboveground and belowground analysis of key plant processes by non-invasive methods**  
ULRICH SCHURR (Jülich)

**14.35 *Invited speaker***  
**The Defra Innovation Network; adapting to climate change**  
PETER MILLS & JASON POLE (Warwick-HRI, UK)

**15.10 Designing resource-efficient ideotypes for new cropping conditions: wheat in the UK and Australasia**  
ROGER SYLVESTER-BRADLEY (ADAS, Boxworth, UK)

**15.30 Potential impact of climate change on brown wheat rust: a preliminary study based on biophysical modeling of infection events and plant-pathogen interactions**  
LAURENT HUBER (Environment and Arable Crops Joint Research Unit, INRA, France)

**15.50 Tea**

**16.20 Phoma stem canker and light leaf spot on oilseed rape in a changing climate**  
JON WEST (Rothamsted Research, UK)

**16.40 *Invited speaker***  
**Options and potential for mitigating climate change in agriculture**  
PETE SMITH (University of Aberdeen)

**17.15 Closing remarks: David Lawlor, Rothamsted Research**

#### ***Posters***

**Impact of climatic factors on the quality of cereals and dry legumes of North Algeria**  
A YOUCEF (UMMTO, Algeria)

**Impacts of future weather changes on the national sugar beet production and some aspects of sugar beet agronomy in the UK**  
A QI (Broom's Barn, UK)

**Effect of climate change on the proportions of *Leptosphaeria maculans* and *L. biglobosa* in phoma stem cankers on oilseed rape**  
J F STONARD (Rothamsted Research, UK)

**Winter wheat sowing date in England in response to the predicted reduction in autumn rainfall**  
P KETTLEWELL (Harper Adams University College, UK)

**Minimum guidelines for measuring and reporting environmental parameters for experiments on plants in growth rooms and chambers**  
MICK FULLER (University of Plymouth, UK)

# ASSOCIATION OF APPLIED BIOLOGISTS

*President: Professor Peter J Lea, BSc, PhD, DSc*



**A two-day conference**

**at Rothamsted Research, Harpenden, Herts**

**on 12-13 November 2008**

**PROGRAMME &  
BOOKING FORM**

**Effects of Climate Change on Plants:  
Implications for Agriculture**



Association of Applied Biologists  
The Warwick Enterprise Park  
Wellesbourne, Warwick CV35 9EF, UK

Registered Charity No. 275655

Telephone: +44(0)1789 472020

Facsimile: +44(0)1789 470234

E-mail: [anna@aab.org.uk](mailto:anna@aab.org.uk)

<http://www.aab.org.uk>

# Effects of Climate Change on Plants: Implications for Agriculture

at Rothamsted Research, Harpenden, United Kingdom

12th – 13th November 2008

Organised by Nigel G. Halford, Huw Jones and David Lawlor, Rothamsted Research

Sponsored by Journal of Experimental Botany  
Programme

(BASIS Points have been applied for)

Wednesday 12th November

09.00 *Invited speaker*

**Improving the characterization of climate risk and adaptation potential for agriculture for the IPCC fifth assessment: The Global Crop Modeling Project**

CYNTHIA E ROSENWEIG (NASA Goddard Institute for Space Studies, New York, USA)

09.35 *Invited speaker*

**Climate change: the challenge for international agriculture**

PETER GREGORY (Scottish Crop Research Institute, UK)

10.10 **Vulnerability of horticultural crop production to extreme weather events**

ROSEMARY COLLIER (Warwick HRI, UK)

10.30 **Assessing the impact of climate change on the assembly and function of arable plant communities**

JONATHAN STORKEY (Rothamsted Research, UK)

10.50 **Coffee**

11.20 *Invited speaker*

**Effects of high temperature stress on grain crops in current and future climates**

TIM WHEELER (University of Reading, UK)

11.55 **Effects of elevated atmospheric carbon dioxide concentration on the protein composition of wheat**

HERBERT WEISER (Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany)

12.15 **The long term global warming potential of a crop rotation in NE Scotland**

KAIRSTY TOPP (Scottish Agricultural College, UK)

12.35 **Lunch**

13.50 *Invited speaker*

**Assessing crop genetic resources for climate change adaptation using crop and climate models**

ANDREW CHALLINOR (University of Leeds, UK)

14.25 *Invited speaker*

**Extreme impacts of climate change on wheat in England and Wales**

MIKHAIL SEMENOV (Rothamsted Research, UK)

15.00 **Deriving marginal abatement cost curves (MACC) for crops and soil mitigation measures in the UK**

DOMINIC MORAN (Scottish Agricultural College, UK)

15.20 **Evaluation of climatic change impact on agricultural crops by using an existing urban-rural environmental gradient**

DO-SOON KIM (Seoul National University, Korea)

15.40 **Tea**

- 16.10 *Invited speaker***  
**Establishing durum wheat adaptations to abiotic stress using multidisciplinary genetic and physiological approaches**  
DIMAH HABASH (Rothamsted Research, UK)
- 16.45** **Effects of nitrogen fertiliser use on green house gas emissions and land use changes**  
D KINDRED (ADAS Boxworth), P BERRY, (ADAS High Mowthorpe) O BURCH & R SYLVESTER BRADLEY (ADAS Boxworth)

*Short talks: Presenters of short talks will be invited to submit accompanying posters*

- 17.05** **The use of bio-char to reduce summer water stress in cereal crops**  
ALFRED GATHORNE-HARDY (Imperial College London, UK)
- 17.10** **Climate changes and in situ conservation of the *Loxodera Ledermannii* (Pilger) natural pastures in Sudanian Benin**  
VALENTIN KINDOMIHOU (University of Abomey Calavi, Benin)
- 17.15** **Wheat populations: stability in an increasingly unstable environment**  
MARTIN WOLFE (Organic Research Centre, Elm Farm, Berkshire, UK)
- 17.20** **Evaluation of an early warning system for grapes downy mildew in Egypt  
*and: Validation of sweet pepper powdery mildew forecasting model in Egypt***  
M A AFIFI (Plant Pathology Research Institute, Agricultural Research Centre, Egypt)
- 17.30** **Compatibility of adaptation and mitigation strategies in UK agriculture**  
PETER HARPER (Centre for Alternative Technology, Machynlleth, UK)
- 17.35** **Agro-meteorological metrics for communicating climate change impacts to land managers**  
MIKE RIVINGTON (Macaulay Institute, Aberdeen, UK)
- 17.40** **Effects of climate change on soil-borne diseases of oilseed rape**  
PETER GLADDERS (ADAS, Boxworth, UK)
- 17.45** **Impact of volatile organic compounds from wildfires on crop production and quality**  
SIMIN D MALEKNIA (University of New South Wales)

**17.50 – 19.00** Poster session

**Thursday 13th November**

- 09.00 *Invited speaker***  
**Crops FACE the future: The consequences of rising atmospheric CO<sub>2</sub> and O<sub>3</sub> on the corn/soy bean agro-ecosystem of the Midwest**  
DON ORT (University of Illinois)
- 09.35 *Invited speaker***  
**Climate change, algae and tropical marine agriculture**  
JAMES CRABBE (University of Bedfordshire, UK)
- 10.10** **A Western Canada perspective on climate change and agriculture**  
ANITA SHEPHERD (North Wyke Research, UK)
- 10.30** **The interaction of elevated CO<sub>2</sub> and drought on the growth and nodulation of lentils**  
MICK FULLER (University of Plymouth, UK)
- 10.50** **Coffee**
- 11.20 *Invited speaker***  
**Effects of drying on the yield of winter wheat**  
ANDREW WHITMORE (Rothamsted Research, UK)
- 11.55 *Invited speaker: sponsored by Plant Physiology***  
**TILLING for improved crop performance under stress conditions**  
MARTIN PARRY (Rothamsted Research, UK)



