

## EAAP 2005 – PhD- courses

### “Genes AND environment - a PhD course on environmental sensitivity and genotype-environment interactions”

**Date:** Thursday 9<sup>th</sup> – Thursday 16<sup>th</sup> June, 2005  
**Place:** Swedish University of Agricultural Sciences,  
Ultuna, Uppsala  
**Organiser:** Swedish University of Agricultural Sciences (SLU)

**Course aim:** To increase the understanding of environmental impact on the evolution and expression of genotypes and its consequences for animal breeding. The course is designed for PhD students in animal breeding and genetics.

**Topics to cover:**

- the importance of genotype x environment interactions (GxE) for animal breeding
- gene expression regulated by different environments
- theory of GxE
  - adaptation
  - environmental sensitivity
- reaction norms
  - influence of environment on genetic parameters
- models for estimation of GxE
  - the reaction norm model
  - the character state model
- examples of important GxE in animals and plants
- consequences of GxE for animal welfare
- testing, evaluation and selection in the presence of GxE
  - changing environmental sensitivity by selection

**Teaching methods:** Lectures, group discussions and computer exercises. The participants will be expected to read the course material before the course starts.

**Instructors:** Erling Strandberg (SLU), Piter Bijma (Wageningen University) and others

**Prerequisites:** A basic understanding of estimation of genetic parameters, genetic evaluation, selection and breeding planning.

**Number of participants:** Number of participants will be limited to 30 (the minimum number is 10)

**Registration deadline:** April 15, 2005

*Registration (including accommodation 8 nights, June 8-16) on the EAAP 2005 Registration Form*

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**For further information, please contact the local organiser:**

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**Note:** This course is part of a Nordic course series on animal breeding. If you are a **NOVA student**, please contact [Lotta.Rydhmer@hgen.slu.se](mailto:Lotta.Rydhmer@hgen.slu.se) for information about registration etc.