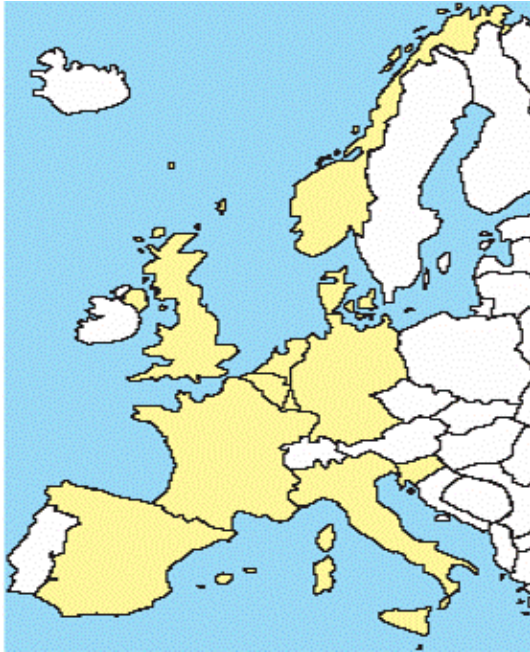


EADGENE's Partners

EADGENE coordinates the activities of **15 Partners** from **10 European Countries**.



- Institut National de la Recherche Agronomique (FR)
- Wageningen University (NL)
- Animal Sciences Group Lelystad, Wageningen UR (NL)
- Institute for Animal Health (UK)
- The Roslin Institute and R(D)SVS, University of Edinburgh (UK)
- University of Aarhus Faculty of Animal Sciences (DK)
- Liege University (BE)
- Ljubljana University (SI)
- Cordoba University (ES)
- Norwegian School of Veterinary Science (NO)
- Research Institute for the Biology of Farm Animals (DE)
- Parco Tecnologico Padano (IT)
- European Forum of Farm Animal Breeders (NL)
- University of Copenhagen (DK)
- Institute for Pig Genetics (NL)

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<http://www.eadgene.info>



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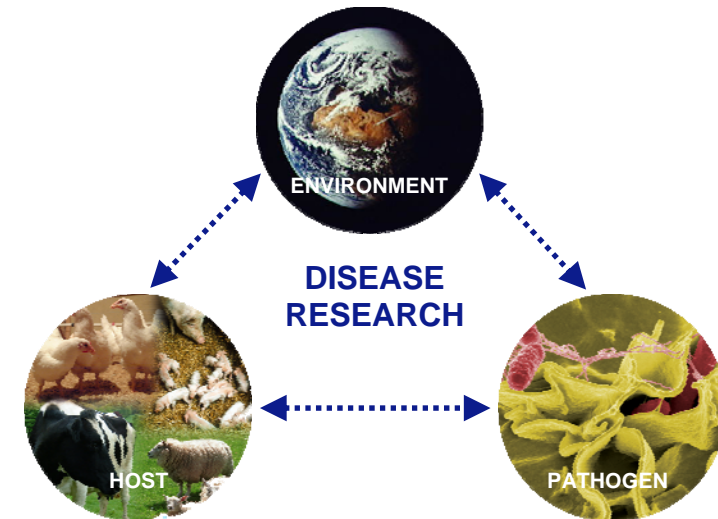
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Food Quality and Safety



European Animal Disease Genomics
Network of Excellence
for Animal Health and Food Safety



EADGENE is a Network of Excellence, which coordinates a genomics approach to the unraveling of host-pathogen interactions, thereby providing the basic knowledge necessary for the development of new or improved therapeutics and vaccines, improved diagnostics, new prevention strategies, and the breeding of farm animals for disease resistance. The network concentrates on pathogens of importance in the human food chain.

www.eadgene.info

Research

The programme for jointly executed research is the core of the Network and relies on, and builds upon, the achievements of the Integration Activities.

The programme is divided into three areas of research: structural genomics, functional genomics and population genetics. These work packages supply basic knowledge, tools, and technologies to better understand the biology of host - pathogen interactions.

The major focus is on host - pathogen interactions relevant to animal and human health, including Salmonella in pigs and poultry, enterohaemorrhagic *E. coli* in cattle, mastitis in cattle, goats and sheep, and IPNV and ISAV infections in salmon.

A work package on operational genomics integrates a subset of the scientific results so that outcomes of practical utility can be developed.

Research Achievements

- ◆ Working groups on Salmonella, mastitis, *E. coli* and ISAV/IPNV
- ◆ Inventories of genetic resources and recorded disease traits
- ◆ Phenotyping of immune responses in genetic models for disease resistance
- ◆ Comparative transcriptomic studies in hosts and pathogens
- ◆ Identification of relevant (signaling) pathways and gene networks
- ◆ Identification and characterisation of virulence factors
- ◆ Large scale SNP discoveries and genotyping
- ◆ Identification of candidate genes and QTN
- ◆ Maps and annotation of animal and microbial genomes improved
- ◆ Mathematical models of disease
- ◆ Identification of regulatory elements and miRNAs
- ◆ Integration and meta-analysis of gene expression data

Integration

The Integrating Activities are achieving durable access to facilities, resources, software, tools and knowledge, as well as funding training courses, mobility and exchanges. The sharing of biological, technological, bioinformatic and analytical resources and facilities, and the movement of scientists between partner organisations is essential to increase the strength of European research.

Integration Achievements

- ◆ Database of available resources
- ◆ Provision and annotation of chicken, pig, bovine, and salmon cDNA microarrays
- ◆ Provision of SNP panels for large scale genotyping
- ◆ Provision of 60K SNP chips
- ◆ Development and distribution of bioinformatics tools
- ◆ Promotion and organisation of workshops and courses
- ◆ Sharing and publication of analytical approaches
- ◆ Mobilisation of scientists
- ◆ Durability strategy
- ◆ Intellectual Property issues addressed

Technology Transfer

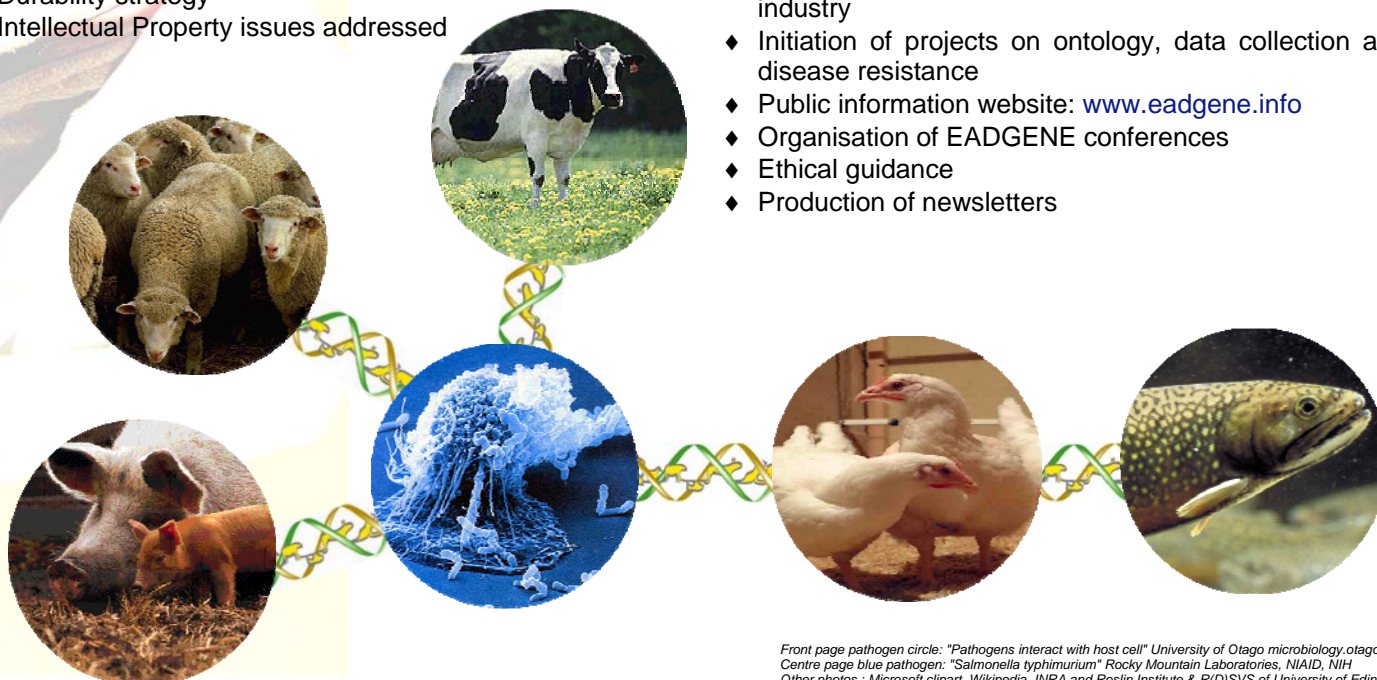
The Spreading of Excellence activities ensure a two way interaction between industry and research. Industry benefits from the research outcomes, and it guides research priorities to meet industry needs. Additionally, Spreading of Excellence activities facilitate training of scientists and communication with society.

Technology Transfer Facilitators bridge the gap between research and industry, for instance by increasing industry awareness of projects, involving industry in project working groups, and mediating in the set up of projects with industrial involvement.

Ethical implications of animal health genomics are discussed and internal ethical guidelines are being developed.

Technology Transfer Achievements

- ◆ Club of Interest: linking to project working groups
- ◆ Support for collaboration between research and industry
- ◆ Initiation of projects on ontology, data collection and disease resistance
- ◆ Public information website: www.eadgene.info
- ◆ Organisation of EADGENE conferences
- ◆ Ethical guidance
- ◆ Production of newsletters



Front page pathogen circle: "Pathogens interact with host cell" University of Otago microbiology.otago.ac.nz
Centre page blue pathogen: "Salmonella typhimurium" Rocky Mountain Laboratories, NIAID, NIH
Other photos : Microsoft clipart, Wikipedia, INRA and Roslin Institute & R(D)SVS of University of Edinburgh