Animal Molecular Genetics Unit (UGMA)

Research Themes:
- Glycobiology
- Muscle
- Differentiation
- Genetic Determinism of Muscle Development
- Genetic Determinism of Meat Quality
- Bovine Genomics

Keywords:
- Cellular Differentiation
- Evolution
- Molecular Genetics
- Genomics
- Genotyping
- Glycosylation
- Muscle
- SNP
- Transcriptome
- Mouse and Bovine Models

2012
The scientific aim of the UMR1061 (Joint Research Team) is to contribute to the improvement of knowledge of the bovine genome, in particular to better understand how genetic variability controls the phenotypic variability of some traits of agronomic interest.

Our projects focus on genes that are likely to regulate the early stages of muscle differentiation and muscle development as well as genes that may control sensory properties of meat. We are involved in genome screening based on high-throughput genotyping and on transcriptomic and proteomic analysis, with the dual aim to identify (i) regions of the genome and target genes for further functional genomics analysis, and (ii) genetic markers that can be used for selection.

We use integrative biology, genetics, epigenetics and functional genomics methods. We work with animal models in order to address fundamental scientific issues and we validate concepts in application models (livestock animals), in particular in bovines.

These scientific objectives lean on 3 complementary theme-based groups: (i) Glycosylation and Myogenesis, (ii) Muscle Development and Animal Models, (iii) Functional Analysis of genes involved in traits of interest in cattle.
**KEY FIGURES**
(at 1st January 2012)

Teacher-researchers: 15  
EPST and EPIC researchers: 2  
Other researchers: 1  
HDR (accredited to direct research): 6  
Doctoral students (2011-2012): 10  
Engineers, technicians: 6  
Administrative agents: 1  
Dissertations defended (2008-2011): 12  
Current national projects: 2 INRA  
Current European projects: 1 Franco-Hungarian project  
Other projects: 2 international cooperation projects

**ECONOMIC ADDED VALUE**
(2008 - 2011)

Number of patents filed: 2 with the INRA  
Industrial or research agreements with major organizations: 10  
Start-up created as a result of research activities since 2005: Glycode  
National conferences, seminars organized: 2

**PARTNERSHIPS**

**Active National University Partnerships:**  
University of Lille, Blaise Pascal University-Clermont-Ferrand, University of Auvergne Clermont-Ferrand, Pasteur Institute Paris, INSERM U602, University of Paris 11-South, University of Montpellier

**Current International University Partnerships:**  
University of Pisa (Italy)  
University of Bologna (Italy)  
Lebanese University (Lebanon)  
Debrecen University (Hungary)  
Pécs University (Hungary)  
Blida University (Algeria)

**National Industrial Partnerships:**  
Institute of Animal Husbandry, UNCEIA (National Association of Livestock and Artificial Insemination Cooperatives), Ingenomix, Lanaud Centre, Melipharm

**Partnerships with National Organizations and Institutions:**  
CNRS, INSERM

**Scientific Interest Groups (GIS):**  
Viandes et Produits Carnés (Innoviandes) Competitiveness Cluster  
CELEGEN (Limousin Centre for Exploitation of the Bovine Genome)  
AGENAE (Genomics Analysis of Livestock)

**Research Federation:**  
GEIST (FR3503)
SCIENTIFIC PRODUCTION
OF RESEARCH TEAM
(2008-2011)

Website publication: hal-unilim.archives-ouvertes.fr
Articles: 79 in peer-reviewed journals
Number of works: 5
Conference presentations: 240

Major publications and/or patents over the last 5 years