

Elena Grego is a Doctor of Veterinary Medicine (DVM). She has obtained the M.S. degree at University of Turin (Italy) in 1998 with a thesis entitled “Comparison between serological test for the BHV-1 diagnosis infection ”. From December 2000 to October 2003, she carried out the Dottorato di Ricerca (Ph.D. equivalent) at the University of Torino with a research project on “Biomolecular methods for the study of Ovine Pulmonary Adenocarcinoma pathogenesis and for the in-vivo diagnosis of Jaagsiekte Sheep Retrovirus in the blood .” In the period September 2001- June 2002, she visited the Department of Medical Microbiology e Parasitology College of Veterinary Medicine –University of Georgia, Athens, GA USA to study the mechanisms of cellular transformation induced by Jaagsiekte Sheep Retrovirus (JSRV) and the development of different virological, molecular and cellular biology assays. In July 2003 and June 2004, she participated to a study on identification and analysis of gene expression profiles in pigs to identify candidate genes useful for the improvement of meat quality and production at the National Research Centre (CNR) in Pavia, Italy. She is Research Scientist in infectious diseases at the University of Turin since March 2005. She is expert of viral disease and molecular biology .

Her main research topics are:

-Retrovirus infection in small ruminants:

Viral strains isolation and viral/genetic characterization. Viral gene expression in prokaryotic and eukaryotic system. Study of Jaagsiekte Sheep Retrovirus (JSRV) transmission mechanisms and PI-3K/Akt pathway involved in cell transformation, to understand the carcinogenesis process typical of ovine pulmonary adenocarcinoma (OPA). Important because the OPA, for the striking similarities to some forms of human lung, is the unique animal model to study lung carcinogenesis. In-vivo study of JSRV colostrums and milk transmission in lambs

-Pestivirus (bovine viral diarrhea virus), Herpesvirus (bovine herpesvirus 1): viral genes expression in prokaryotic and eukaryotic system, development of serological test and molecular biology techniques (PCR, multiplex PCR)

-Spirochetes (*Borrelia burgdorferi* s.l.): molecular characterization and phylogenetic analysis by Bayesian phylogenetic inference via Markov chain Monte Carlo methods and by the molecular evolution model estimate

-Prion disease: study of PrP gene in cetacean species with particularly attention to the well-known PrP domain and phylogenetic analysis

-Orbivirus (Bluetongue virus): Development of Real Time RT-PCR assay based on Taq Man probe and syber-green for the Piedmont region surveillance in wild and domestic animal.