

SCHOOL OF ADVANCED STUDIES- 2011 PhD Research topics

Area of Studies

LIFE SCIENCES AND PUBLIC HEALTH

Curriculum:	VETERINARY MEDICAL SCIENCES AND PUBLIC HEALTH
Supervisor: Dr. Fulvio Laus	<p>Research topic n.1:CLINICAL AND INSTRUMENTAL INVESTIGATIONS FOR POOR PERFORMANCE IN ATHLETIC HORSES</p> <p>Standardbred horses will be evaluated with the aim to correlate risk factors of some diseases with performances</p>
Supervisor: Dr. Alessandro Fruganti	<p>Research topic n.2 : TISSUE DOPPLER IMAGING IN THE DOG</p> <p>The aim of this research is to study the applicability of the Tissue Doppler Imaging (TDI) in the examination of the heart functionality of the dog in physiological and pathological conditions.</p>
Supervisor: Dr. Matteo Cerquetella	<p>Research Topic n. 3: STUDY OF NEW DIAGNOSTIC APPROACHES TO DIGESTIVE DISORDERS, including new haematological markers for the diagnosis of IBD and contrast medium enhanced ultrasonography.</p>
Supervisor: Prof. Andrea Spaterna	<p>Research Topic n. 4 BRONCHOPNEUMOPATHIES IN DOGS AND CATS Study of new therapeutic approaches.</p>
Supervisor: Prof.ssa Annarita Loschi	<p>Research Topic n. 5: SURVEY ON THE PRESENCE OF EMERGING PARASITES IN MUSCLES OF REGULARLY SLAUGHTERED CATTLE</p> <p>The research aims at detecting possible emerging parasites in muscles of regularly slaughtered cattle as risk factor for human health</p> <p>QUALITY EVALUATION OF MEAT FROM “MARCHIGIANA” BREED</p> <p>The aim of the research is to determine the quality of meat from animals belonging to the “marchigiana” breed slaughtered in abattoirs of Marche region by means of an integrated control system based on the evaluation of hygienic, sanitary, organoleptic and nutritional features of this product.</p>

<p>Supervisor: Prof. Stefano Rea</p>	<p>Research Topic n. 6: USE OF ELECTROPHORETIC AND BIOMOLECULAR TECHNIQUES FOR SPECIES IDENTIFICATION IN ANIMAL-BASED FOOD</p> <p>The aim of the research is the setting up and the application of electrophoretic and biomolecular analytical techniques for the identification of animal species in different animal-based food to prevent or detect commercial and/or sanitary frauds</p> <p>EVALUATION OF BIOGENIC AMINE CONTENT IN DIFFERENT KINDS OF ANIMAL-BASED FOOD</p> <p>The content of biogenic amines in different kinds of animal-based food will be investigated by HPLC-DAD. Particular attention will be given to traditional products of Marche region and to animal-based food intended for early childhood, a high-risk category must have quantitative data on the rate of growth (G) for crystal composition, pressure and temperature of interest. In this project will be studied the mechanisms and the growth rates of minerals in magmas, by carrying out experiments at high temperature and pressure to determine the parameters which controls the growth rate.</p> <p>The PhD student will carried out the research in collaboration with l'Universita' di Pisa (prof. Armienti, progetto PRIN). The students will perform the experiments in Camerino, but will also spend time in the labs at INGV (Roma) and periods for monitoring activity and study at Osservatorio Vesuviano, in Stromboli and in Iceland</p>
<p>Supervisor: Prof. Giacomo Renzoni</p>	<p>Research Topic n. 7: CD4+ CD25HIG T LYMPHOCYTES AND THEIR SIGNIFIANCE AS REGULATORY CELLS IN DIFFERENT CHRONIC INFLAMMATIONS.</p> <p>The aim is to verify the role of the T regulatory cells to modulate the immune response in animals affected by chronic viral, bacterial and parasitic chronic diseases.</p>
<p>Supervisor: Prof. Giacomo Renzoni</p>	<p>Research Topic n. 8: PRESENCE OF STAMINAL CANCER CELLS (CCSts) IN ANIMAL TUMOURS.</p> <p>The aim of the study is to verify the presence of and characterize the compartment of steam cancer cells in animal solid tumours.</p>

<p>Supervisor: Prof. Giacomo Rossi</p>	<p>Research Topic n. 9: DEVELOPMENT OF IMMUNOMODULATION PROTOCOLS IN BIRDS. Aims: to test different antigens and adjuvants in birds and to evaluate <i>in vitro</i> and <i>in vivo</i> systems the efficacy to induce protection against different bacterial, viral and mycotic diseases.</p>
<p>Supervisor: Prof. Giacomo Rossi</p>	<p>Research Topic n. 10: METABOLIC DISORDERS IN BIRDS. Aims: to evaluate (and suggest a possible prevention strategy) different metabolic disorders as iron overload (“emochromathosis”), steatosis, glycogen storage disease, etc. in birds (especially parrots, colibrì, toucans and raptors) due to the captivity status and inadequate dietary regimens.</p>
<p>Supervisor: Prof. Giacomo Rossi</p>	<p>Research Topic n. 11: DEVELOPMENT OF DIAGNOSTIC TOOLS FOR GASTROINTESTINAL DISEASES IN PETS. Aims: serological and bio-molecular techniques will be developed to evaluate antigens or early molecular marker associated to gastrointestinal disorders in companion animals.</p>
<p>Supervisor: Prof. Silvia Vincenzetti</p>	<p>Research Topic n. 12: CLONING, EXPRESSION, PURIFICATION AND CHARACTERIZATION OF HUMAN APOBEC- 3G ENZYME. This enzyme deaminates deoxycytidine into deoxyuridine in the neosynthesized retroviral cDNA (editing). Aim of this project is the molecular and kinetic characterization of the Apobec-3G enzyme by site directed mutagenesis studies on the active site region.</p>
<p>Supervisor: Prof. Silvia Vincenzetti</p>	<p>Research Topic n. 13: X-RAY CRYSTALLOGRAPHIC STUDIES ON MUTANT CYTIDINE DEAMINASE (CDA) ENZYMES These studies will be performed on CDA with a mutation on tyrosine 60 to glycine. Y60G mutant enzyme resulted to be more resistant to temperature with respect to the wild type enzyme.</p>
<p>Supervisor: Prof. Silvia Vincenzetti</p>	<p>Research Topic n. 14: STUDIES ON THE PROTEIN FRACTION IN DONKEY AND SHEEP MILK This studies will be performed by hromatographic techniques in HPLC using a reversed phase column.</p>
<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 15: DEVELOPMENT OF DIAGNOSTIC TOOLS FOR INFECTIOUS DISEASES IN EXOTIC ANIMALS. Bacteriological and bio-molecular techniques are investigated to detect the more suitable diagnostic methods for infectious diseases of exotic animals.</p>

<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 16: AETIOLOGY, EPIDEMIOLOGY AND DIAGNOSIS OF BETA-HAEMOLYTIC CSTREPTOCOCCI INFECTIONS IN HORSE.</p> <p>Bacteriological and bio-molecular methods are used to investigate the bacterial characteristics, the prevalence and the more suitable diagnostic methods for detecting <i>Streptococcus dysgalactiae subsp. equisimilis</i>, <i>Streptococcus equi subsp. equi</i> and <i>Streptococcus equi subsp. zooepidemicus</i> in equine specimens.</p>
<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 17: RHODOCOCCUS EQUI INFECTION IN HORSES: EVALUATION OF DIAGNOSTIC</p> <p>methods, aetio-epidemiological study of Italian isolates, and development and evaluation of immuno- prophylactic tools.</p> <p>Bacteriological, serological and bio-molecular methods are compared for detecting <i>R. equi</i> in different equine specimens, Italian isolates of <i>R. equi</i> are investigated for the presence and the sub-typing of virulence plasmids, and immune prophylactic effects of anti-<i>R. equi</i> vaccines are tested in horse.</p>
<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 18: AVIUM SUBSP. PARATUBERCULOSIS IN ANIMAL SAMPLES AND TO DETECT WILDLIFE</p> <p>reservoirs for bovine tuberculosis (<i>Mycobacterium bovis</i>) in Italy.</p> <p>Bacteriological, serological and bio-molecular methods are compared for detecting <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> in different bovine and ovine samples, and to study the epidemiological role of wildlife in maintaining the infection.</p>
<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 19: EVALUATION OF THE ASSOCIATION BETWEEN AN ANTIBIOTIC AND A MUCOLITIC</p> <p>agent in the therapy of the respiratory diseases of dogs and cats.</p> <p>The effectiveness of the contemporaneous administration of an antibiotic and a mucolitic agent is evaluated in dogs and cats with respiratory diseases.</p>
<p>Supervisor: Prof. Vincenzo Cuteri</p>	<p>Research Topic n. 20: HORSE.</p> <p>Serological and bio-molecular methods are used to investigate the prevalence of <i>EHV-2</i> in horses with and without respiratory signs</p>
<p>Supervisor: Dr. Francesca Mariotti</p>	<p>Research Topic n. 21: MAMMARY TUMORS OF THE DOG AND THE CAT</p> <p>Immunohistochemical expression of hormonal receptors and CD4+CD25+ linfocytes in</p>

	<p>mammary tumors in the dog and the cat and their role in neoplastic growth and progression.</p>
<p>Supervisor: Dr. Roberta Stocchi</p>	<p>Research Topic n. 22: IMMUNOHISTOCHEMICAL EVALUATION OF THYROID FUNCTIONAL CHARACTER AS CONTROL OF CHEMICAL HAZARDS IN CATTLE The aim of the research is to test a new screening method using IHC versus thyroglobulin, pendrine, TSH receptors, thyroid enzymes (peroxidase and oxidase) and Na⁺/I⁻ symporter, to evaluate chemical hazard consequences</p>
<p>Supervisor: Dr. Roberta Stocchi</p>	<p>Research Topic n. 23: NEW SCREENING TECHNIQUE TO DETECT THE ILLICIT USE OF ANABOLIC DRUGS IN MEAT-PRODUCING CATTLE The research aims at setting up a new immunohistochemistry-based screening technique to evaluate the expression of sexual hormone receptors in tissues from regularly slaughtered cattle</p>
<p>Supervisor: Prof. Stefano Rea</p>	<p>Research Topic n. 24: QUALITY EVALUATION OF HANDCRAFT CHEESE MADE IN THE AREA OF “ALTO MACERATESE” This research aims to study the traditional cheese production in the mentioned area, rich of historical evidences of a great variety of traditional food products, some of which have got official recognition, such PDO and PGI. Will be evaluated the hygienic, sanitary and organoleptic features of some of these products in comparison with other similar cheeses in other Italian and EU regions.</p>