AREA OF RESEARCH - LIFE AND HEALTH SCIENCES

SCHOLARSHIPS FUNDED THROUGH EUREKA PROGRAM

RESEARCH TOPICS LIST

N. Prog.	Title	Area of Research	PhD Curriculum	Company	Tutor UNICAM
1	Ricerca e studio di materie prime alternative a quelle di origine acquatica da impiegarsi nell'alimentazione della trota iridea (Oncorhynchusmykiss) in un'ottica di produzione sostenibile, finalizzata all'ottenimento di un prodotto di qualità - Research and study of alternative raw materials to feed rainbow trout (Oncorhynchusmykiss): sustainable production, aimed at obtaining a quality product	Life and Health Sciences	One health	Azienda Agr. Troticoltura Eredi Rossi Silvio di Rossi Nicola Via M. dei Calcinai 2 - Sefro (MC) TUTOR: Nicola Rossi	Alessandra Roncarati
2	Studio su una nuova formulazione di alimento funzionale per cani e gatti affetti da patologie croniche renali e cardiovascolari - Study of a new formulation of functional food for dogs and cats with chronic kidney and cardiovascular diseases	Life and Health Sciences	One health	NUTRIX PIU' srl Via Potenza 92 - Castelraimondo (MC) TUTOR: Claudio Cristalli	Fulvio Laus

SCHOLARSHIPS FOR CITIZEN OF COSTA RICA

RESEARCH TOPICS LIST

1	Study of the growth curve of cattle Brahman . A model of allometric study aimed at identifying, through the comparative study of the growth of all organs and systems of Brahman cattles , the physiological maturity of the animal production, in order to establish the ideal weight for slaughter.	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri
2	Study of the genetic structure of the Brahman breed raised in Costa Rica . The genetic structure of the Brahman breed is analyzed through study markers micro satellites of 650 cattles a year, half males and half females, championships in 4 regions of the country. In addition to the genetic variability and the classic parameters Whright , all parameters related to the internal dynamics of the race itself (Whalund effect , genetic distances between subpopulation , founder effect , etc .) will be estimated .	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri
3	Study of the biological component of the muscle determining the tenderness of the meat . Characterization of the component of intramuscular collagen and intramuscular fat of muscles of Brahman cattles. The components examined will be related to the genetic variability of the cytoplasmic enzyme system calpain - calpastatine .	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri
4	Determination of a system of international label for meat from cattle Brahman . The study seeks to identify the biological parameter needed to characterize the meat of Brahman internationally. The study is absolutely original, having never been tackled for meat of zebu	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri

5	Estimation of genetic indexes for evaluating the ovulatory efficiency of bovine Brahman. Characterization of the superovulation of bovine Brahman . The study takes its cue from recent studies carried out in other zebuine races (Nellore in Brasile) according to which there would be an important genetic component explaining their tendency to a high superovulation	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri
6	Livestock production is one of the key drivers of land degradation. Overgrazing due to mismanagement represent one of the major cause of biodiversity loss which, in turn, determine the decrease of ecosystem functioning and services. Thus, the identification of appropriate grazing management strategies able to promote biodiversity conservation and restoration, is eagerly needed. To this regard, the research topic that will be developed during the 3 years of Ph.D., will deal with the evaluation of the potential impacts produced by the grazing of bovines (Brahman breed) at the ranch scale in Costarica, by mean of a combination of chemical-physical and biological (at different levels of organization: i.e from molecules to community level) indicators, with the main aim to develop environmentally sustainable management strategies.	Life and Health Sciences	Ecosystems and Biodiversity Management	The Ph.D. programme will be realized in the frame of a research project entitled: "Evaluacion Y Caracterizacion de la raza Brahman en Costa Rica para su Comercialisacion en el Mercato International' recently granted to the University of Camerino (Italy) and the successful Ph.D candidate will realize his/her research activity in both countries; field work in Costarica and laboratory work in Italy.	Antonietta La Terza

SCHOLARSHIPS CO- FUNDED BY UNICAM

RESEARCH TOPICS LIST

1	The goal of our research project is to constitute a ñ*Cancer Registry and Surveillance System for Companion Animals* ò, starting from epidemiological data from Marche Region. In its initial stages, the registry is best understood as a pilot study, intended to acquire sufficient data to validate the process, demonstrate the geospatial analytic skills needed, and provide preliminary data for future studies. Dogs and cats share some risk factors for cancer with their human companions. Currently Italy is one of the few Western Countries that lack a Cancer Registry for animals. The Marche Region will promote this pilot project, co-financing a PhD position, with the aim of starting the regional web portal.	Life and Health Sciences	One Health		Giacomo Rossi
2	**New approaches for cerebral cholinergic system exploration:** Acetylcholine and its receptors (muscarinic and nicotinic) are ubiquitously distributed. Brain cholinergic system is involved in different crucial activities as movement, cognition, and several regulatory mechanisms. New approaches for exploring cholinergic system activities/parameters in the brain of human subjects and in models of disease (e.g. hypertension, obesity é) may significantly increase our knowledge regarding this system and its involvement in brain activities. The program of the fellowship intends to investigate new and more efficient ways to assess cholinergic neurotransmission parameters.	Life and Health Sciences	One Health		Seyed Khosrow Tayebati

3	**Telepharmacy systems for monitoring medicines intake by frail patients.** Telepharmacy is the delivery of pharmaceutical care via Information and Communication Technology (ICT) to patients in locations where they may not have direct contact with a pharmacist. The project intends to develop procedures and services of drug therapy monitoring, patient counseling and remote dispensing medications. The telepharmacy system can be helpful for insuring medicine assumption compliance in small hospitals, clinics, retirement houses and for patients under home care assistance. The system will increase the coverage of the service delivery and will improve patient safety.	Life and Health Sciences	One Health		Francesco Amenta
4	**Development of an expert system to guarantee high quality medical assistance to remote patients.** Telemedical consultations represent the main way for providing medical assistance to patients located in remote sites. The project intends to develop applications to improve requests of assistance based on the standardization of telemedical consultations. Applications will be based on a software engine capable of extracting data from an ontological knowledge base. The system will allow more accurate and complete information in the request of assistance in comparison to the classical communication methods (e-mail messages or telephone calls) resulting in more rapid and precise diagnosis.	Life and Health Sciences	One Health		Francesco Amenta
5	Genetic modulation of the functionality of the hair follicle in Cashmere goats bred in Alashan, Inner Mongolia, China . This study complete the investigations already in progress dealing with the genetic evaluation of the seasonal down in Cashmere goats reared in semi-desert area named Alashan. Co-funded by the project THEIR FLAT Alashan CASHMERE, lasting five years	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri

6	The primary objective of the project is the development of DNA based vaccines for the treatment of cancer and infectious diseases. From the conception we have sought to increase the efficacy of DNA vaccines though the use of immunostimulatory gene adjuvants, which are aimed at not only increasing the overall breadth of the immune response but also towards skewing the type of immune response from B to T cell effectors. Indeed the protective capacity of many currently used vaccines is based on the induction of neutralizing antibodies, but many pathogenes have adapted themselves in different ways to escape antibody-based protection. Thus the addition of a T-cell based components to existing antibody-based regimes offers the opportunity of providing superior protection against disease for which conventional vaccines have failed so far. This project will be conducted in collaboration with CureLab (Boston, USA)	Life and Health Sciences	Molecular Biology and Cellular Biotechnology		Franco Venanzi, in collaboration with CureLab (Boston, USA)
7	The complex cell structure of Ciliates, dimorphic germline and somatic nuclei, and fast division rate have made them very useful model organisms. Marine ciliates, particularly of the genus *Euplotes* have been studied for over a hundred years and have provided significant insights into microbial ecology, endosymbiont biology, and long-term cold adaptation. While these organisms have an unusual genome organization (e.g., a macronucleus containing single gene chromosomes amplified to thousands of copies), this has been beneficial in elucidating universal principles in the biology of telomeres, transposons, chromatin and small RNAs. For the psychrophilic Antarctic species *E. focardii* and the mesophilic *E. crassus,* we plan to develop: (i) gene silencing for reverse genetics, exploiting natural RNA interference (RNAi) mechanisms by feeding bacteria expressing target complementary RNA; (ii) transformation systems, employing either microinjection of artificial nanochromosomes expressing GFP tagged fusion proteins, or	Life and Health Sciences	Molecular Biology and Cellular Biotechnology		Cristina Miceli, cofunded by Gordon and Betty Moore Foundation Marine Microbiology Initiative