

**SCHOLARSHIPS FUNDED THROUGH EUREKA PROGRAM**

**RESEARCH TOPICS LIST**

<b>N. Prog.</b>	<b>Title</b>	<b>Area of Research</b>	<b>PhD Curriculum</b>	<b>Company</b>	<b>Tutor UNICAM</b>
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	Sviluppo di nuovi metodi di tipo macchine learning per la gestione del rischio in finanza delle energie rinnovabili - Development of new methods of learning type machines for risk management in finance renewable energy	Science and Technology	Physics; Mathematics	FinLABO SIM SpA Via Corso Persiani 45 - Recanati TUTOR: Anselmo Pallotta	Carlo Lucheroni
3	Sviluppo di processi ecosostenibili per poliuretani ed altri materiali polimerici innovativi termoresistenti - Development of sustainable processes for polyurethanes and other innovative heat-resistant polymers	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences	ELANTAS Italia srl sede operativa di Ascoli Piceno, Zona Ind.le Campolungo 35 TUTOR: Giovanna Biondi	Enrico Marcantoni
4	Simulazione agli elementi finiti delle prestazioni termo-fisiche di sistemi utilizzati per la produzione di energia termica - Finite elements simulation of the thermo-physical performance of systems used for the production of thermal energy	Science and Technology	Physics	LAMINOX srl Zona Industriale Callarella 261/263 - Sarnano (MC) TUTOR: Luigi Rafaiani	Nicola Pinto
5	Il contratto di rete: uno strumento di crescita, innovazione e internazionalizzazione per la green economy - The network contract: a tool for growth, innovation and internationalization of the green economy	Legal and Social Sciences	Civil Law and Constitutional legality	IL FARO sas Di Domenico Francesco & C. Contrada Prati 6 - Mogliano (MC) TUTOR: Francesco Di Domenico	Rocco Favale

6	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 Potenza 92 - Castelraimondo (MC) TUTOR: Claudio Cristalli	Fulvio Laus
7	Progettazione e sviluppo di dispositivi gesture-driven per l'ambient assisted living - Design and development of gesture-driven devices for ambient assisted living	Science and Technology	Mathematics	PICCHIO SpA sede operativa di Ascoli Piceno, Via del Commercio 45 TUTOR: Francesco Di Pietrantonio	Maria Letizia Corradini & Roberto Giambò
8	EANC Eco Alternative Nano Coating	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences	DIASEN srl Zona Industriale Berbentina 5 - Sassoferrato (AN) TUTOR: Diego Mingarelli	Claudio Pettinari
9	Diagnostica nel restauro e adeguamento software tecnico da Eurocodice alle normative turche - Diagnostics in the restoration and upgrading of a software from Eurocode to the Turkish regulations	Science and Technology	Computer Science: Research topic on Innovative technologies, smart housing and industrial design: structural engineering and control	Società Sibillina Dimora srl Via Capocastello 40 - San Ginesio (MC) TUTOR: Giuseppe Bocci	Andrea Dall'Asta
10	Strategie di mercato e comunicazione WEB nei servizi di intermediazione turistica - Market strategies and web communication for tourism intermediation	Legal and Social Sciences	Civil Law and Constitutional legality; Fundamental Rights in the Global Society	Aleamar sc - Movimondo Via Roma 4 - San Severino Marche (MC)	Catia Eliana Gentilucci
11	Supporto alle PMI per la partecipazione ai bandi di finanza agevolata e l'accesso ai fondi a gestione indiretta dell'Unione Europea FESR-FEASR 2014-2020, attraverso una piattaforma innovativa denominata -Support to SMEs for participation in the calls for grant awards and funding in indirect management of the European Union - EAFRD ERDF 2014-2020, through an innovative platform called Agevolapp	Legal and Social Sciences	Civil Law and Constitutional legality	SMP WEB srl Via del Bastione 16 - Camerino (MC) TUTOR: Stefano Massari	Rocco Favale
12	Turismo sociale e sostenibile attuato da un'azienda pubblica di trasporto nel rispetto della normativa europea e statale - Social and sustainable tourism implemented by a public transport company in compliance with European and Italian legislation	Legal and Social Sciences	Civil Law and Constitutional legality	CONTRAM SpA Via Le Mosse 19/21 TUTOR: Mario Pollicelli	Antonio Flamini
13	Sviluppo di un modello di riferimento per normativa internazionale sul turismo Incoming dall'estero ove sono presenti atleti sia maggiorenni che minorenni - Development of a model for international regulation on Incoming tourism, dealing with both adult and minor athletes	Legal and Social Sciences	Civil Law and Constitutional legality	Esitur Tour Operator srl Corso Matteotti 12 - Jesi (AN) TUTOR: Daniele Crognalenti	Antonio Flamini

14	Tecnologie e sistemi per la produzione modulare di calzature di sicurezza - Technologies and systems for the modular production of safety shoes	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences	SAFE WAY srl Via del Lampo Zona Industriale Campolungo - Ascoli Piceno TUTOR: Luca Silvestrini	Carlo Santini
15	Sviluppo di un modello di riferimento per la normativa internazionale relativa all'outgoing turistico verso la Cina tramite la vendita e-commerce - Development of a model for the international regulations on outgoing tourism to China through e-commerce sales	Legal and Social Sciences	Civil Law and Constitutional Legality	GO ASIA srl Via Canale 22 - Ancona TUTOR: Ludovico Scortichini	Lucia Ruggeri
16	Definizione di un quadro normativo internazionale finalizzato allo sviluppo di un portale per le prenotazioni di servizi turistici di incoming dalla Cina - Definition of an international regulatory framework aimed at developing a portal for reservations of incoming tourism services from China	Legal and Social Sciences	Civil Law and Constitutional Legality	Go Travel Click srl Via Canale 22 - Ancona TUTOR: Ludovico Scortichini	Francesco Rizzo
17	Monitoraggio della qualità dell'aria con metodologie analitiche avanzate - Air quality monitoring with advanced analytical methods	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences	Società Analisi Control srl Via San Claudio 5 - Corridonia (MC) TUTOR: Mirko Marangoni	Silvia Zamponi
18	Development of new products of natural origin for the treatment of neuropathic pain	Chemical and Pharmaceutical Sciences and Biotechnology	Pharmaceutical Sciences	FB Health SpA Via dei Sabini 28 - Ascoli Piceno TUTOR: Paolo Carboni	Roberto Ciccocioppo
19	Law 231/2001, and crimes against public administration	Legal and Social Sciences	Fundamental Rights in the Global Society	Studio Botta & Associati srl Via Mascagni 70 - Monte San Giusto (MC) TUTOR: Sergio Botta	Maria Lucia Di Bitonto
20	A formal and easy-to-use domain specific language to support the implementation of sensor and actuator networks (WSANs)	Science and Technology	Computer science	S.A.A.I.P. PROIETTI (Studio Associato Immobiliare) Viale della Vittoria 13 - Ancona TUTOR: Paola Camilla Proietti	Leonardo Mostarda
21	Studio della architettura di una piattaforma SW flessibile, modulabile, collaborativa ed interoperabile che verrà utilizzata per la realizzazione di vari sistemi di controllo e misura per applicazione industriali - Study of the architecture of a flexible, adaptable, collaborative and interoperable SW platform, to be used for the realization of various control systems and industrial applications	Science and Technology	Computer science	AEA srl Gruppo Loccioni Via Fiume 16 - Angeli di Rosora (AN) TUTOR: Gianluca Di Fulvio	Andrea Polini

22	Ricerca, progettazione, prototipazione e sperimentazione di modelli innovativi per erogazione di servizi di supporto, assistenza, monitoraggio basati su tecnologie domotiche e cloud based, rivolte a target di anziani, bambini, categorie fragili o a rischio - Research, design, prototyping and testing of innovative models for the provision of support services, assistance, monitoring -based automation technologies and cloud based, addressed to elderly people, children, frail or at risk categories	Science and Technology	Computer science	NET 4 PARTNERS srl Via Marconi 102 - Falconara Marittima (AN) TUTOR: Sonia Massobrio	Francesco De Angelis
23	Novel devices for high-throughput/low-impact animal reserch	Chemical and Pharmaceutical Sciences and Biotechnology	Pharmaceutical Sciences	AM MICROSYSTEMS srl Contrada Montedoro 3 - Urbisaglia (MC) TUTOR: Adolfo Russo	Massimo Ubaldi
24	Prototipazione virtuale in realtà aumentata - Virtual prototyping in augmented reality	Science and Technology	Computer science	MADEBA-LAB srls Via I Maggio 156 - Ancona TUTOR: Luca Barbera	Leonardo Mostarda
25	Un middleware adattivo ad alta efficienza energetica per la programmazione di reti di sensori ed attuatori (WSANs) - Energy efficient adaptive middleware for sensors and actuators networks (WSANs)	Science and Technology	Computer science	WINITALIA Via Don G. Bosco 59 - Civitanova Marche (MC) TUTOR: Francesco Arruzzoli	Leonardo Mostarda
26	Efficientamento energetico integrale: audit, diagnosi e sistemi di efficienza energetica prodromici alla gestione intelligente dell'energia negli impianti e negli edifici industriali - Energy efficiency: audits, diagnostics and energy efficiency systems for intelligent energy management in buildings and industrial plants	Science and Technology	Computer Science: Research topic on Innovative technologies, smart housing and industrial design: structural engineering and control	Consorzio Energia Piceno Corso Mazzini 151 - Ascoli Piceno TUTOR: Renzo De Santis	Giuseppe Losco

**SCHOLARSHIP FUNDED THROUGH THE PARTNERSHIP AGREEMENT BETWEEN ANTWERPEN AND CAMERINO**

1	<p><b>Multiband superfluidity and superconductivity in novel ultrathin materials.</b> Multicomponent superconductivity is a novel quantum phenomenon in different superconducting materials, such as multiband ones in which different gaps open in different Fermi surfaces, films engineered at the atomic scale to enter the quantum confined regime, and two-dimensional electron gases in which different carriers participate in the formation of the superconducting condensate. In these systems the increased number of degrees of freedom of the multicomponent superconducting state allows for emergent quantum effects that are unattainable in single-component superconductors</p>	Science and Technology	Physics		Andrea Perali
---	---	------------------------	---------	--	---------------

**SCHOLARSHIPS FOR CITIZEN OF COSTA RICA**

**RESEARCH TOPICS LIST**

1	<p>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.</p>	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	<p>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.</p>	Life and Health Sciences	Ecosystems and Biodiversity Management	<p>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 Mercado 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.</p>	Antonietta La Terza
---	---	--------------------------	--	--	---------------------

**SCHOLARSHIPS CO- FUNDED BY UNICAM**

**RESEARCH TOPICS LIST**

1	<p>The goal of our research project is to constitute a <i>Cancer Registry and Surveillance System for Companion Animals</i>, 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.</p>	Life and Health Sciences	One Health		Giacomo Rossi
---	--	--------------------------	------------	--	---------------

2	<p><b>New approaches for cerebral cholinergic system exploration:</b> 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 í ) 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.</p>	Life and Health Sciences	One Health		Seyed Khosrow Tayebati
3	<p><b>Telepharmacy systems for monitoring medicines intake by frail patients.</b> 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.</p>	Life and Health Sciences	One Health		Francesco Amenta

4	<p><b>Development of an expert system to guarantee high quality medical assistance to remote patients.</b> 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.</p>	Life and Health Sciences	One Health		Francesco Amenta
5	<p>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</p>	Life and Health Sciences	Ecosystems and Biodiversity Management		Carlo Renieri

6	<p><b>Multi-perspective Modeling and Verification for Complex Organizations.</b>  Complex organizations nowadays operate in complex and volatile contexts asking for prompt reactions to emerging changes in order to maintain competitiveness and efficiency. To answer to such a need a lot of effort has to be devoted to the definition of languages, approaches and tools permitting to represent and reason on process perspectives of such organizations and to successfully implement supporting IT solutions. The PhD student will be mainly involved in theoretical research work focused on the study of modeling and verification approaches for business processes enabling correct integration of software components interacting according to component-based and service-oriented paradigms in particular in a multi-organizational context.</p>	Science and Technology	Computer Science		Flavio Corradini; EU project Learn Pad
7	<p>Characterization and modelling of geofluid reservoirs (<a href="http://www.rechprolect.com">www.rechprolect.com</a>) . In terms of productivity and environmental sustainability, the management and optimization of the natural reservoirs of geofluids (i.e. mineral and hydrothermal waters, geothermic fluids, oil and gas) require an integrated and multidisciplinary approach, which is particularly true in fractured and faulted sedimentary rocks that are known for their heterogeneity and petrophysical complexity. This PhD project aims to explore the relationships existing between compositional, depositional, and diagenetical rock features and the physical-mechanical properties of the sedimentary rocks.</p>	Science and Technology	Physical and Chemical Processes in Earth Systems		Emanuele Tondi; Claudio Di Celma
8	<p>Construction Industry Law, City Planning, Workers Insurance, Public Contracts Law, Insurance Law</p>	Legal and Social Sciences	Fundamental Rights in the Global Society		Carlotta Latini

9	<p>The need for the pharmaceutical industry to produce a constant stream of new small organic molecules has led to constant change R&amp;D strategies to improve their drug discovery process. There is the need of new synthetic strategies for the development of the number of compounds required to ensure continued growth. Heterocyclic small molecules have had and continue to have a profound effect on human health, used as drugs to combat a broad range of diseases and pathophysiological conditions. The ring construction through cyclization of polyfunctionalized acyclic precursors used to obtain a wide range of medically relevant heterocyclic compounds represents the main topic of the Ph.D. fellowship.</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences		Enrico Marcantoni
10	<p>A chemotherapeutic agent must be as effective for the cancer and as non-toxic for healthy tissues as possible, minimizing side effects. The choice of drugs depends on the tumor cells since some are susceptible to a type of compounds, and this topic proposes a research finalized to the design, selective synthesis, and characterization of small organic molecules to be used to prepare new complexes with just effective metals for having a potential cytotoxic activity on cancer cell lines. Practical scientific principles in solving real synthesis problems, and improving own skills in analytical techniques such as Infrared, Mass Spectrometry and Nuclear Magnetic Resonance Spectroscopy are developed.</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences		Enrico Marcantoni

11	<p>Synthesis and characterization of advanced materials for electrochemical energy storage and conversion. The research activity will be addressed to the synthesis and physicochemical characterization of advanced materials for electrochemical energy storage/conversion devices, as Li-ion batteries, Na-ion batteries and Fuel Cells, mainly targeting toward performance, durability and interfacial stability. The research team includes two assistant professors, one post-doc researcher and several PhD students, collaborates with several national and international partners, and is funded by national and international institutions and companies. (EU ó VII Framework Programme, ENEA, MIUR, AEA-Locconi, FIB).</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences		Francesco Nobili
12	<p>The project will focus on the investigation of neurobiological mechanisms responsible for development of drug abuse combining approaches from various disciplines, including behavioral pharmacology, molecular biology and electrophysiology. The candidate will explore, at preclinical level, new mechanisms for development of innovative pharmacotherapeutic approaches to drug abuse.</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Pharmaceutical Sciences		Roberto Ciccocioppo

13	<p>Overconsumption of high-palatable caloric-dense food, readily available in modern societies, is the primary cause for obesity epidemic, which, besides other comorbidities, has been associated to increased incidence of depressive and anxiety disorders and to higher pain levels. Deficits in the brain reward system observed in obese patients are interpreted as addiction-like neuroadaptive changes able to increase the risk for such disturbances. In support to this hypothesis, reward hypofunctionality, compulsive-like eating, anxiety and reduced pain threshold were observed in obese rats and mice that volitionally overate a palatable diet. The endocannabinoid anandamide (AEA) and its two non-cannabinoid analogues, palmitoylethanolamide (PEA) and oleoylethanolamide (OEA) might play an important role in this context.</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Pharmaceutical Sciences		Carlo Cifani
14	<p><b>Photoactive Nanomaterials for Energy and Environmental Applications.</b> This topic propose to synthesize innovative photocatalytic semiconductor-nanomaterials, with controlled composition, morphology, electronic structure and charge-transfer properties in order to increase the performance in the photodegradation processes of environmentally relevant chemical species and in the DSSC solar cell devices. The focus will be directed to the study of nanomaterials properties, prepared at controlled experimental conditions, by studying analytically all the phases, from surface preparation, sorption of target substances, energy production and photodegradation activity in order to obtain the best quality of photocatalyst for the specific applications</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences		Rita Giovannetti

15	<p>Analysis of the physical models for the soil moisture dynamics in the vadose zone. Numerical approximation schemes for the numerical solution of these models and the corresponding computer implementation. Analysis of the mathematical methods for the adaptation of these models to a prescribed watershed and development of computer packages for model adaptation. Analysis of the mathematical methods for the evaluation of slope stability, numerical approximation of these methods and the corresponding computer implementation</p>	Science and Technology	Physical and Chemical Processes in Earth Systems		<p>Nadaniela Egidi; Co-funded with the Project LANDSLIDE: Project Manager: Pierluigi Maponi</p>
16	<p>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 through 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 pathogens 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)</p>	Life and Health Sciences	Molecular Biology and Cellular Biotechnology		<p>Franco Venanzi, in collaboration with CureLab (Boston, USA)</p>

17	<p>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 <i>Euplotes</i> 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 <i>E. focardii</i> and the mesophilic <i>E. crassus</i>, 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</p>	Life and Health Sciences	Molecular Biology and Cellular Biotechnology		Cristina Miceli, cofunded by Gordon and Betty Moore Foundation Marine Microbiology Initiative
18	<p>Through the study of the components that generate odors in rooms like the kitchen, it will try to realize the innovative filter systems able to increase efficiency and improve the indoor air quality. During this study the PhD student will mainly use mass spectrometry analysis on various kind of air samples of volatile substances emitted during the cooking of food. He also will use many different instrumental techniques such as GC/MS, HPLC/MS, IR, and NMR. The identification of odoriferous substances will help identify which of them can be transformed chemically to avoid their side effects when present. At the end of the PhD course, the results obtained will allow to develop new biopolymeric materials through which to build new filtering systems capable of ensuring high values of adsorption and the possibilities of regeneration at low temperatures.</p>	Chemical and Pharmaceutical Sciences and Biotechnology	Chemical Sciences		Enrico Marcantoni; Dennis Fiorini