



Anno 2013

Università degli Studi di PAVIA >> Sua-Rd di Struttura: "SCIENZE DEL FARMACO"

B.1.b Gruppi di Ricerca

1. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Medicinal Chemistry Laboratorium (MedChemLab)
Descrizione	Research activity: Research activity is characterized by a high degree of multidisciplinary and combines molecular modeling, chemical design and synthesis with biological investigations. Particularly, researches are focused on preparation and structure-activity relationships of biologically active compounds (small molecules and peptides), design and preparation of focused drug discovery libraries, preparation and characterization of chiral compounds. Research topics: · Design and synthesis of small molecules able to mimic ELAV proteins action (RNA Binding Proteins which bind to specific mRNAs regulating their gene expression) or to activate these proteins via PKC in collaboration with S. Govoni (Drug Sciences Dept., Section of Pharmacology), S. Prici (Dipartimento di Ingegneria e Architettura dell'Università di Trieste), D. Potenza (Dipartimento di Chimica, Università di Milano) and J. Yli-Kauhaluoma and R. Tuominen (Biocenter Viikki Division of Pharmaceutical Chemistry, Helsinki Univ.-FL). · Discovery of new agonists of sigma1 receptors, as new potential neuroprotective agents, in collaboration with D. Curti (Dipartimento di Biologia e Biotecnologia L. Spallanzani, University of Pavia), S. Prici (Dipartimento di Ingegneria e Architettura dell'Università di Trieste), B. Wuensch (Institute of Pharmaceutical and Medicinal Chemistry, Muenster Univ.-D) and K. Leuner (Molecular & Clinical Pharmacy, Erlangen-D). · Study of vegetable matrix for the extraction and quantification of known metabolites as well as for the identification of novel biologically active compounds. These projects are in collaboration with E. Martino (Earth and Environmental Sciences Dept.), A. Avanzini (Pediatric Hematology/Oncology Department, IRCCS Policlinico San Matteo, Pavia), M. Paolillo (Drug Sciences Dept., Section of Pharmacology) and F. Leoni (Italfarmaco SpA).
Sito web	
Responsabile scientifico/Coordinatore	COLLINA Simona (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS7 - Diagnostic Tools, Therapies and Public Health: Aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

PE5 - Synthetic Chemistry and Materials: Materials synthesis, structure-properties relations, functional and advanced materials, molecular architecture, organic chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
MARRA	Annamaria	SCIENZE DEL FARMACO	Assegnista	CHIM/08
NASTI	Rita	SCIENZE DEL FARMACO	Dottorando	CHIM/08
ROSSI	Daniela	SCIENZE DEL FARMACO	Ricercatore	CHIM/08
RUI	Marta	SCIENZE DEL FARMACO	Dottorando	CHIM/08

2. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Pharmaceutical Analysis Laboratory
	Research lines: · Studies on the characterization and separation of folding conformers and /or aggregates of amyloidogenic proteins (wild type and mutated) by LC-UV, LC-MS, Capillary electrophoresis (CE)UV, CE-wavelength resolved Fluorescence, CE-ESI-MS and direct infusion MS. In coll. with G. Aldini (Dept. of Pharmaceutical Sciences, UniMi, I), S. Rudaz (School of Pharmaceutical Sciences, University of Geneva, CH), G. Somsen

Descrizione	(Division of Biomolecular Analysis, Vrije University, Amsterdam, NL), I. Kaltashov (Dept. of, University of Massachusetts-Amherst, Amherst, USA), V. Bellotti (Dept. of Molecular Medicine of UniPv, I). · Studies on advanced glycation end products of beta2-microglobulin in uremic patients as potential drug targets. In coll. with G.Aldini (Dept. of Pharmaceutical Sciences, UniMi, I) and the Dept. of Molecular Medicine of UniPv, I. · Qualitative and quantitative studies on drug-protein interactions by using advanced analytical techniques and in silico simulations. In collaboration with G.Campiani (Dept. of Biotechnology, Chemistry and Pharmacy, Unisi, I), L.Colombo (Dept. of Drug Sciences, UniPv, I), G.Aldini, G.Vistoli (Dept. of Pharmaceutical Sciences, UniMi, I). · Study on the ability of a naturally-occurring peptide to modify or prevent ABeta fibril formation in vivo using Circular Dichroism, microimmunoassays, CE, Asymmetric Field Flow Fractionation, TEM, Multiangle Laser Light Scattering (AFFF-MALLS) and Molecular Dynamics simulations. In coll. with M.Chiari, G.Colombo (CNR Milan, I) and A.Barron (Stanford, USA) · Analytical techniques for the characterisation of tailor made synthetic receptors (molecularly imprinted polymers, MIPs), designed for recognition of specific molecules of pharmaceutical interest (template). These polymers are materials that find applications for SPE (solid-phase-extraction), analytical separation or sensing. In coll. with B. Sellergren, University of Malmö, Sweden.
Sito web	
Responsabile scientifico/Coordinatore	DE LORENZI Ersilia (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS7 - Diagnostic Tools, Therapies and Public Health: Aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

PE4_5 - Analytical chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
BERTOLETTI	Laura	SCIENZE DEL FARMACO	Assegnista	CHIM/09
COLOMBO	Raffaella	SCIENZE DEL FARMACO	Ricercatore	CHIM/08

3. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	HPLC and MS Pharmaceutical Analysis Lab
Descrizione	Research lines: From traditional medicine to drug discovery. Aim of the project is the validation of the traditional medicinal uses followed by isolation and chemical characterization of secondary metabolites of plants responsible for biological activity/ies. The plants used in the traditional medicine of the Baka pygmies are the focus of the research. The phytochemical investigation is carried out in collaboration with the Microbiology lab (Dept. of Drug Sciences) and with C.I.St.R.E (Center for Studies and Researches in Ethnopharmacy). Biochromatography. This research is focused on the development of biochromatographic systems suitable for studying the interactions between drugs and biomacromolecules (i.e. proteins, enzymes) of pharmaceutical interest. This approach is used to study the binding forces and to determine the affinity constants of several drugs towards both membrane receptors (GPR-17, A2A) and nuclear receptors (PPAR, α and γ subtypes). Also enzymes can be immobilized on chromatographic supports to generate bioreactors for on-line conversion of substrates of pharmaceutical interest (i.e. nucleosides and nucleotides with immobilized nucleoside phosphorylases; therapeutic proteins with immobilized proteases). Analytical Methods Development and Validation. The research group competences are also exploited in the development and validation of analytical methods in HPLC-UV and HPLC-DAD, using reverse phase liquid chromatography (RP-LC), hydrophilic liquid chromatography (HILIC), and chiral chromatography. The validation of analytical procedures is directed to the determination of synthetic and/or natural substances in complex matrices, such as drugs, food or cosmetics. The developed methods characteristics fulfil the ICH guidelines requirements to identification, control of impurities, and quantitative analysis. HPLC-MS in the Structural Characterization of Biopharmaceuticals. This field of research is focussed on the development of innovative LC-MSn methods for identification and structural characterization of peptide and protein therapeutics (i.e. Teicoplanin, main product and related impurities). This research line is also part of the VATUB project coordinated by the Pharmaceutical Biocatalysis Group (Dept. Drug Sciences), on the synthesis of new vaccines for tuberculosis by conjugation of antigenic oligosaccharides with proteins overexpressed by MTB during infection. The key role of analysis is to quantify the extent of glycosylation reaction, to localize the glycosylation sites and verify the epitope preservation in the glycoconjugates.
Sito web	
Responsabile scientifico/Coordinatore	MASSOLINI Gabriella (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS7 - Diagnostic Tools, Therapies and Public Health: Aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

LS9_9 - Applied biotechnology (non-medical), bioreactors, applied microbiology

PE4_5 - Analytical chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
BRUSOTTI	Gloria	SCIENZE DEL FARMACO	Ricercatore	CHIM/08
CALLERI	Enrica	SCIENZE DEL FARMACO	Ricercatore	CHIM/08
TEMPORINI	Caterina	SCIENZE DEL FARMACO	Ricercatore	CHIM/08
TENGATTINI	Sara	SCIENZE DEL FARMACO	Dottorando	CHIM/08

Altro Personale

Dott. Giorgio Marrubini

4. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Pharmaceutical Biocatalysis Laboratory
Descrizione	Research lines: From ancient crops materials and products for the future (VELICA). Aim of the project is to make again gainful the growing of flax and hemp in Lombardia where it used to be widespread at the beginning of the 20th century. This goal is pursued by the exploitation of all the parts of the plant to make high added-value products (including fine chemicals and nutraceuticals). The project is developed by the Italian Biocatalysis Center (www.italianbiocatalysis.eu) involving the Dept. of Drug Sciences (PBL and Pharmaceutical Analysis Laboratory) and University of Milan (Dept. of Chemistry) in partnership with different Institutes of the CNR of Milan. Funding: Regione Lombardia (10/02/2010-09/08/2013); Further information: www.velica.org A biotechnological approach for the rational design of new vaccines for tuberculosis (VATUB). Aim of the project is the synthesis of new vaccines by conjugation of oligosaccharides structurally related to lipoarabinomannan, the major antigen of Mycobacterium tuberculosis (MTB), with proteins over-expressed by MTB during infection. The project is developed in collaboration with the Pharmaceutical Analysis Laboratory (Dept. of Drug Sciences) and in partnership with: University of Milan (Dept. of Chemistry); University of Insubria (The Protein Factory), IRCCS Policlinico San Matteo of Pavia (Dept. of Infectious Diseases). Funding: 01/12/2010-30/11/2012 Regione Lombardia and Areta International S.r.l. (Gerenzano, VA); Since September 2013 Fondazione Banca del Monte. Further information: http://www.italianbiocatalysis.eu/ita/index.php?pagina=208 Enzymes for biocatalysis. This research is focused on the development of immobilized enzymes for the synthesis of nucleosides and nucleotides. Biochromatographic systems based on nucleoside phosphorylases are also being developed as innovative tools to speed up the screening of nucleoside libraries (search for substrates/inhibitors) aimed at biocatalytic applications or at drug discovery studies. This research is carried on in collaboration with the Pharmaceutical Analysis Laboratory (Dept. of Drug Sciences) and University of Milan (Dept. of Chemistry).
Sito web	
Responsabile scientifico/Coordinatore	TERRENI Marco (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS6_11 - Prevention and treatment of infection by pathogens (e.g. vaccination, antibiotics, fungicide)

LS7_3 - Pharmacology, pharmacogenomics, drug discovery and design, drug therapy

LS9_9 - Applied biotechnology (non-medical), bioreactors, applied microbiology

PE5 - Synthetic Chemistry and Materials: Materials synthesis, structure-properties relations, functional and advanced materials, molecular architecture, organic chemistry

Componenti:

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Cognome	Nome	Struttura	Qualifica	Settore
UBIALI	Daniela	SCIENZE DEL FARMACO	Ricercatore	CHIM/08
BAVARO	Teodora	SCIENZE DEL FARMACO	Assegnista	CHIM/08
CATTANEO	Giulia	SCIENZE DEL FARMACO	Dottorando	CHIM/08
SERRA	Immacolata	SCIENZE DEL FARMACO	Assegnista	CHIM/08

5. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Organic Synthesis Group
Descrizione	Research activity: Our research projects are joined by the common goal to design different ways of creating new organic structures in a stereocontrolled and, if applicable, catalytic manner. This includes the development of new reaction methodology for the synthesis of biologically active molecules and new patentable synthesis of active pharmaceutical ingredients (API) Research topics: · Synthesis of peptidomimetics and RGD-based integrin inhibitors as new potential anticancer and antithrombotic agents in collaboration with D. Potenza (Dipartimento di Chimica, Università di Milano), S. Schinelli (Dipartimento di Scienze del Farmaco, Sezione di Farmacologia, Università di Pavia), M. Torti (Dipartimento di Biochimica "A. Castellani", Università di Pavia) · Asymmetric synthesis of quaternary amino acids mediated by chiral oxazolidines · Synthesis of C-glycosyl-α-amino acids promoted by Pd complexes · Functionalization of silicon surfaces with organic linkers for the development of biosensors in collaboration with V. Bellotti (Dipartimento di Medicina Molecolare, Università di Pavia), D. Narducci (Dipartimento di Scienza dei Materiali, Università di Milano Bicocca)
Sito web	
Responsabile scientifico/Coordinatore	COLOMBO Lino (SCIENZE DEL FARMACO)

Settore ERC del gruppo:
PE5_17 - Organic chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
DI GIACOMO	Marcello	SCIENZE DEL FARMACO	Ricercatore	CHIM/06
PEVIANI	Elena Giulia	SCIENZE DEL FARMACO	Dottorando	CHIM/06

Altro Personale	Dott. Massimo Serra
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6. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Biology and Pharmacology of Aging and Neurodegenerative diseases
Descrizione	Research lines: · Involvement of p53 in neurodegeneration: Impact of betaamyloid/ p53 interference on Alzheimer pathogenesis in collaboration with D. Uberti and M. Memo, University of Brescia. · "Study of the implication of mitochondrial dysfunction in AD pathogenesis" in collaboration with D. Uberti and M. Memo, University of Brescia. · "Glucocorticoid receptors and signal transduction pathways associated to immune activation and immunosenescence." This project is in collaboration with E. Corsini, University of Milano. · "Altered DNA damage response in Down syndrome cells" in collaboration with E. Prosperi (Molecular Genetics Institute, CNR, Pavia). · "Roles of miR-155/C/EBPβ/SNX27 pathway in Alzheimers disease/Down syndrome" in collaboration with Huaxi Xu (Sanford-Burnham Medical Research Institute, USA).

	· "Study on the activity of bi-functional compounds for the treatment of Alzheimer's disease" in collaboration with ML Bolognesi and M. Rosini, University of Bologna. · "Study on the activity of nanoparticle delivered quercetine on amyloid toxicity" in collaboration with P. Giunchedi, University of Sassari. · Framework collaboration with Fondazione Golgi Cenci - Abbiategrosso (MI) on project related to aging and Alzheimer's disease.
Sito web	
Responsabile scientifico/Coordinatore	RACCHI Marco (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS5 - Neurosciences and Neural Disorders: Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological and psychiatric disorders

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
LANNI	Cristina	SCIENZE DEL FARMACO	Ricercatore	BIO/14

7. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Cellular and Molecular Neuropharmacology Group
Descrizione	Research lines: · Study on the biologic effects of molecules able to mimic ELAV proteins action (RNA Binding Proteins which bind to specific mRNAs regulating their gene expression) or to activate these proteins via PKC in collaboration with S. Collina (Drug Sciences Dept., Section of Medicinal Chemistry and Technology) and with a group of Finnish Pharmaceutical Chemists and Pharmacologists (Helsinki Univ.). · Characterization of the role of the ubiquitous ELAV/HuR protein in diabetic retinopathy (in collaboration with F. Drago, Catania Univ.; M. Gorospe, NIH, Baltimore, USA) and in age-related macular degeneration. This latter project, in collaboration with K. Kaarniranta (Kuopio, Finland), is mainly focused on the autophagy process. Lab Chief: Alessia Pascale Lab Staff: Marialaura Amadio, Cecilia Osera, Nicoletta Marchesi Scientific Consultant: Stefano Govoni DDS Pharmacology Section Cellular and Molecular Neuropharmacology Group · Effects in neuronal models of low frequency electromagnetic fields (75Hz) on the molecular mechanisms regulating autophagy (altered in Alzheimers disease) and oxidative processes. These projects are in collaboration with: S. Comincini (Biology and Biotechnology Dept.), G. Ricevuti (Internal Medicine and Therapeutics Dept.), G. Magenes and S. Caorsi (Industrial and Information Engineering Dept.) of Pavia Univ. · Investigation on HSP72 polymorphisms and relative protein expression in Multiple Sclerosis patients in collaboration with M. Cuccia (Biology and Biotechnology Dept.) and R. Bergamaschi (IRCCS, Mondino). · An innovative field is represented by the role of NGF in cardiac pathologies. This line of research is within a multidisciplinary collaboration (E. Vanoli, Molecular Medicine Dept., Pavia Univ.; P. Fantucci, Milano Bicocca Univ.; M. Ceroni, IRCCS Mondino) which led to the foundation of the NeuHeart spin-off
Sito web	
Responsabile scientifico/Coordinatore	PASCALE Alessia Angela (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS5 - Neurosciences and Neural Disorders: Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological and psychiatric disorders

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
AMADIO	Marialaura	SCIENZE DEL FARMACO	Ricercatore	BIO/14

8. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Molecular Neuroscience Lab
Descrizione	Glioblastoma cancer stem cells: Human glioblastoma is one of the most lethal cancer types. The key point to improve glioblastoma pharmacological therapy lies in the ability to prevent the dissemination of single cancer cell that eventually contributes to the reformation of new solid tumor mass. The invasiveness of brain cancer cells is a complex mechanism that involves initial detachment of tumorigenic cells from the tumor mass, migration through brain parenchima, resistance to apoptotic damage and finally adhesion to distal cells in the tumoral niche. In our lab glioblastoma stem cells isolated from biopsies are cultured and characterized. The mechanisms underlying cell migration and tissues infiltration are investigated, particularly the chemokine-integrin crosstalk. Techniques: Cell culture, quantitative RT-PCR, western blot, immunofluorescence analysis, ELISA tests, FACS analysis Funds: PRIN grant 2012 Endothelial Progenitor cells, EPC: EPC detach from bone marrow sites and reach, through the blood flow, distant sites where neoangiogenesis is activated. They play a physiological role in the vascular repair processes and, also, contribute to tumor driven neoangiogenetic processes. EPC isolated from kidney carcinoma patients and healthy subjects are cultured in our lab to investigate mechanisms that lead to their extravasation and homing in tumor sites.
Sito web	
Responsabile scientifico/Coordinatore	SCHINELLI Sergio (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS3 - Cellular and Developmental Biology: Cell biology, cell physiology, signal transduction, organogenesis, developmental genetics, pattern formation in plants and animals, stem cell biology

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
GALIAZZO	Marisa Carlotta	SCIENZE DEL FARMACO	Dottorando	BIO/14
PAOLILLO	Mayra	SCIENZE DEL FARMACO	Ricercatore	BIO/14

9. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Neuropharmacology Group
Descrizione	Research lines: · In vivo and in vitro study of the effects of acute soluble beta amyloid on neurotransmitter dynamics at synaptic and gliosome level in collaboration with University of Genoa, Pharmacy Department (DIFAR) · Mechanisms of the neuromodulatory action of beta-amyloid: effects on synaptic proteins in vivo and in vitro in collaboration with University of Genoa, Pharmacy Department (DIFAR) · Fibroin scaffolds for the transplantation of pancreatic islets to treat diabetes pathologies in collaboration with ML. Torre (Drug Sciences Dept., Section of Medicinal Chemistry and Technology)
Sito web	

Responsabile scientifico/Coordinatore	GOVONI Stefano (SCIENZE DEL FARMACO)
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Settore ERC del gruppo:

LS5 - Neurosciences and Neural Disorders: Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological and psychiatric disorders

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
PREDA	Stefania	SCIENZE DEL FARMACO	Ricercatore	BIO/14

10. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Biopharmaceutics and Formulation Development Laboratory
Descrizione	Research lines: · Development of innovative formulations for the treatment of chronic wounds. Aim of the research line is to develop formulations able to deliver hemoderivatives in association with anti-infective/antioxidant agents to chronic wounds. These formulations are able to avoid instability or incompatibility problems of the actives and to prolong their contact with the biological substrate. The following formulations based on bioactive polymers are under study: - Gels and in situ gel forming mucoadhesive formulations for buccal and vaginal administration - Eye-drops and in situ gel forming formulations for ophthalmic administration - Sponge-like dressings, powders and scaffolds for cutaneous application (in collaboration with the research group of Prof. Helder A. Santos (University of Helsinki)). · Development of polymeric micelles for topical delivery of poorly soluble drugs. Aim of the research line is to exploit ionic interactions to obtain hydrophobically modified bioactive polymers, that in aqueous environment undergo self-aggregation and give rise to nanoparticles loading poorly soluble drugs. These carriers are under study for ophthalmic and cutaneous applications. · Novel in situ film forming spray formulations for buccal delivery of drugs. Buccal administration of drugs is intended either for a local action or for a rapid and quantitative systemic absorption, since it enables to by-pass the first-pass hepatic metabolism. Unluckily these goals are often prevented by a too short residence time and an insufficient spreading on the mucosa, when the actives are loaded in solid (sublingual tablets) or liquid (spray) formulations. This justifies the development of innovative liquid delivery systems to be easily sprayed on the buccal mucosa and to form in situ a mucoadhesive film, capable of withstanding the physiological removal mechanisms. · Nanocomposites as innovative carriers for oral and cutaneous routes (in collaboration with the research group of Prof. Cesar Viseras, University of Granada). Nanocomposites are hybrid materials with at least one dimension in the nanometric range, based on clay minerals and biopolymers. The in vitro interaction of nanocomposites with cellular substrates (fibroblast and intestinal cell models) and their bio/mucoadhesive properties are under study in the perspective to develop systems for oral administration (delivery of proteins and DNA/RNA based drugs) and for cutaneous application in wound healing (anti-infective drugs). The laboratory cooperates with Pharmaceutical Companies for the development and characterization of topical and site-specific formulations, such as mucoadhesive semisolids and liquids, nano- and microparticles, dressings for cutaneous application. The co-operations presently in progress involve the following companies: Rottapharm Madaus, Fidia Farmaceutici, Dipharma, Angelini.
Sito web	
Responsabile scientifico/Coordinatore	CARAMELLA Carla (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

PE4_17 - Characterization methods of materials

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
BONFERONI	Maria Cristina	SCIENZE DEL FARMACO	Prof. Associato	CHIM/09
FERRARI	Franca	SCIENZE DEL FARMACO	Prof. Associato	CHIM/09
ROSSI	Silvia Stefania	SCIENZE DEL FARMACO	Prof. Associato	CHIM/09
SANDRI	Giuseppina	SCIENZE DEL FARMACO	Ricercatore	CHIM/09

11. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Cell Delivery System Laboratory
Descrizione	Research lines: · Development of new engineering materials for type 1 diabetes treatment based on silk fibroin non-woven mats and alginate capsules for pancreatic islets and adipose-derived stem cells cotransplantation. Research founded by Fondazione Cariplo, FIBROPAN 2011-0355, in collaboration with S. Preda (Drug Sciences Dept., Pharmacology Section), S. Faragò (Innovhub-Stazioni Sperimentali per l'Industria, Divisione Seta, Milan) and M. Marazzi (S.S. Terapia Tissutale, A.O. Ospedale Niguarda Ca' Granda, Milan). · Design of human cartilage models in three-dimensional culture systems for in vitro screening of drugs. Research founded by Rottapharm Madaus R&D Division, in collaboration with M. Marazzi (S.S. Terapia Tissutale, A.O. Ospedale Niguarda Ca' Granda, Milan). · Controlled-release capsules containing livestock specie spermatozoa for artificial insemination. Research in collaboration with D. Vigo and M. Faustini (Veterinary Science and Public Health Dept., Milan University), M. Spinaci (Veterinary Medical Sciences Dept., Bologna University) and A. Galli (Istituto Sperimentale Italiano Lazzaro Spallanzani). Project founded by Ministero delle Politiche Agricole e Forestali, Decreto MiPAAF Prot. 13576 del 24/5/2011, RIPROWEL Microsem. · Multiparticulate delivery systems based on alginate, fibroin, and sericin. Project funded by Eureka-Eurostars in 2010, E15227 FIBROSPHERE, in collaboration with S. Faragò (Innovhub,- Stazioni Sperimentali per l'Industria, Sezione Seta). · Feasibility study of the scale up for the GMP production of medical devices and Advanced Therapy Medicinal Products, in collaboration with M. Marazzi (S.S. Terapia Tissutale, A.O. Ospedale Niguarda Ca' Granda, Milan).
Sito web	
Responsabile scientifico/Coordinatore	TORRE Maria Luisa (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS3_12 - Stem cell biology

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
CHLAPANIDAS	Theodora	SCIENZE DEL FARMACO	Assegnista	CHIM/09
PERTEGHELLA	Sara	SCIENZE DEL FARMACO	Dottorando	CHIM/09

12. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Lab. Pharmaceutical Technology and Law (PT&L)
Descrizione	Research topics: · Formulation, characterization and study of micro- and nano-particulate drug delivery systems made of biodegradable and biocompatible polymers · Formulative studies on nanoparticulate adjuvants for protein subunit vaccine · Formulative studies on targeted nanoparticulate drug delivery system for cancer and anti-inflammatory therapies · Development of formulations specific for paediatric use · Formulation and characterization of scaffolds as implantable and temporal devices in tissue engineering based on synthetic and natural polymers · Study of the effect of ionizing radiation on natural and synthetic polymers and micro/nanoparticulate drug delivery systems · Study of physico-chemical properties and degradation performances of synthetic and natural polymers · Health communication. Information to prevent medication errors by patients
Sito web	
Responsabile scientifico/Coordinatore	CONTI Bice (SCIENZE DEL FARMACO)

Settore ERC del gruppo:
LS7_3 - Pharmacology, pharmacogenomics, drug discovery and design, drug therapy
PE5_15 - Polymer chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
CHIESA	Enrica	SCIENZE DEL FARMACO	Dottorando	CHIM/09
COLZANI	Barbara	SCIENZE DEL FARMACO	Dottorando	CHIM/09
DORATI	Rossella	SCIENZE DEL FARMACO	Ricercatore	CHIM/09
DE TRIZIO	Antonella	SCIENZE DEL FARMACO	Dottorando	CHIM/09
GENTA	Ida	SCIENZE DEL FARMACO	Prof. Associato	CHIM/09
MODENA	Tiziana	SCIENZE DEL FARMACO	Prof. Associato	CHIM/09

13. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Physical Pharmacy Laboratory
Descrizione	Research lines: Physico-chemical characterization of solid-state of amorphous and crystalline active, excipients and polymeric materials. Isolation of crystalline solid phases by different techniques such as solvent evaporation, solvent drop grinding, vapour diffusion, co-crystallization. Structural and refinement studies on single crystal in collaboration with the laboratory of Supramolecular Chemistry supervised by Prof. Mino R. Caira, University of Cape Town (South Africa). Biopharmaceutical and technological implications of polymorphism and solvatomorphism (phase transitions, stability, compatibility) in preformulation and formulation studies. Studies of stability and hydration/dehydration processes of the pharmaceutical solids at different and controlled conditions of temperature and relative humidity by means of thermal analysis techniques (Differential Scanning Calorimetry, Thermogravimetric Analysis, Thermo-optical Analysis). Preparation of inclusion complexes with natural and derivative cyclodextrins for improving the physicochemical and biopharmaceutical properties of actives; characterization of the systems on solid and liquid phase. Drug-excipient compatibility studies.
Sito web	
Responsabile scientifico/Coordinatore	SORRENTI Milena Lillina (SCIENZE DEL FARMACO)

Settore ERC del gruppo:
PE4_17 - Characterization methods of materials
PE4_5 - Analytical chemistry

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
CATENACCI	Laura	SCIENZE DEL FARMACO	Ricercatore	CHIM/09

14. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Pharmaceutical and Cosmetic Technology
	Research lines: Innovative approach for interstitial cystitis treatment. Development and characterization of a vaginal pessaries as an intravaginal delivery system of drugs for the

Descrizione	treatment of interstitial cystitis. The project is developed in partnership with the Department of Urology of San Matteo, I.R.C.C.S. Hospital of Pavia. Skin lesions and recovery. Objective assessment of physiological bases concerning the functional and aesthetic recovery of skin lesions and skin grafting. The project is developed in partnership with the Plastic Surgery Unit of the University of Pavia, I.R.C.C.S. Fondazione S. Maugeri. Content-packaging interactions. Evaluation of content-packaging interactions in order to optimize the choice of packaging depending on formulation type. In particular this study highlighted the importance to evaluate the packaging-formulation interaction for the safety of the marketed product especially when ingredients as a sunscreens and preservatives are present. The project is developed in partnership with the Italian Institute of Packaging, EticHub s.r.l, academic spin-off and supported by So.Ge.Cos S.p.A. Development of new equipments. Developments of prototypes for the design of new protocols to evaluate safety and efficacy of cosmetics and medical devices. The project is developed in partnership with EticHub s.r.l, academic spin-off.
Sito web	
Responsabile scientifico/Coordinatore	PERUGINI Paola (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS7 - Diagnostic Tools, Therapies and Public Health: Aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
BRIASCO	Benedetta	SCIENZE DEL FARMACO	Dottorando	CHIM/09
CAPRA	Priscilla	SCIENZE DEL FARMACO	Assegnista	CHIM/09

15. Scheda inserita da questa Struttura ("SCIENZE DEL FARMACO"):

Nome gruppo*	Food Chemistry and Nutraceutics Laboratory
Descrizione	Research lines: · Isolation and chemical characterization by chromatographic techniques of foods and botanicals with antibacterial activity in collaboration with Prof. Anna Marchese, University of Genoa. · Study of the metabolic profile of plant foods with high nutritional and functional value. Effects of technological processes of production (both conventional and innovative) and simulated gastro-duodenal digestion on the content of nutrients and nutraceuticals in collaboration with Prof. Luisa Mannina, Sapienza University of Rome and Prof. Giancarlo Tenore Federico II University of Naples. · Isolation and chemical characterization by chromatographic techniques of foods and botanicals with protective activity against chronic diseases in collaboration with Prof. Sayed Fazel Nabavi, University of Tehran (Iran) and Prof, Solomon Habtemariam, University of Greenwich (United Kingdom) · Isolation and chemical characterization by chromatographic techniques of foods and botanicals able to influence the expression of specific miRNAs associated with inflammation in collaboration with Prof. Enrica Capelli, Dipartimento di Scienze della Terra e dell'Ambiente, University of Pavia. · Detection of the alterations of intermediate metabolism in Alzheimer's disease and relations with the insulin resistance in collaboration with Prof. Maurizia Dossena and Prof. Ornella Pastoris, Department of Biology and Biotechnology L. Spallanzani, University of Pavia and Fondazione Salvatore Maugeri. · Study of the Oltrepo Pavese wine typicality and correlation between sensorial properties and chemical composition in collaboration with the Center for Research, Training and Services of the Vine and Wine, Riccagioia S.C.p.A.
Sito web	
Responsabile scientifico/Coordinatore	DAGLIA Maria (SCIENZE DEL FARMACO)

Settore ERC del gruppo:

LS9_6 - Food sciences

Componenti:

Cognome	Nome	Struttura	Qualifica	Settore
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