MEDICAL SCIENCES	
Cycle	**XXXII**
Duration	3 years
Coordinator	Prof. Riccardo BONADONNA – Department of Clinical and Experimental Medicine email: riccardo.bonadonna@unipr.it
Research Topics (the applicant MUST indicate one research topic)	1. Gene-environment interactions in degenerative diseases 2. Translational research of specific tolerance induction in organ and bone marrow transplantions 3. Novel non-invasive methods to assess effects and to early diagnose chronic degenerative diseases and cancer 4. Relationships between funciton an d morphology in lung diseases: clinical and pharmaoclogic implications 5. Pathophysiology of multiple myeloma and molecular mechanisms of action of novel anti-myeloma drugs 6. Plasticity and function of cell/tissue transcriptomic, proteomic and metabolomic platforms in metabolic and degenerative diseases, including the biologic responses to environmental factors, lifestyle and drugs 7. Predictive biomarkers of hepatocarcinoma evolution: identification of altered regulatory mechanisms by gene expression analysis of T lymphocytes and NK cells within tumoral tissues 8. Genomics of Mendelian diseases: NGS tools to investigate etiopathogenesis and correlations between genotype and phenotype 9. Preclinical reseeach in oncology: novel therapeutic strategies of lung and breast cancers 10. Translational research on the role of stem cells in the pathogenesis and treatment of tissue damage and on th erole of cancer stem cells in hematoncological diseases 11. Treatment of chronic HBV and HCV infections: identification of dysfunctional gene expression profiles in circulating and intra-hepatic virus-specific lymphocytes and their role in novel recovery strategies of lymphoicyte function. 12. Identification of immunological patterns of antiviral protection: investigation of circulating and intrahepatic T lymphocyte function (production of antiviral, regulatory and cytotoxic cytokines) in patients with acute HBV infection 13. Endothelial function and arterial compliance in the elderly 14. Novel potential biomarkers and hormone cut-off values of sarcopenia and neurogenic sarcopenia 15. Geriatric epidemiology and endocrinology 16. Pathophysiology of reanal failure 17. Genetic and environmental factors in vasculitis 18. In vivo and in vitro assessment of the effects due to nanomaterial exposure 19. Secondary hyperparathyroidism and vitamin D: cardiovascular risk in patients at different stages of chronic renal failure 20. Molecular identification of inflammatory and collagen factors playing a role in the progression of prevalently glomerular kidney diseases to renal sclerosis 21. Clinical and genetic factors associated to kidney stones 22. Primary and secondary prevention of kidney stone disease 23. In vitro, in vivo and population studies of the immune system in the elderly

	24. Studies on drugs targeting bone metabolism 25. In vitro and in vivo studies in osteometabolic diseases, such as Paget's disease, low vitamin D conditions, and on the relaitonships between bone tissue and osteoactive hormones 26. Risk factors of occupational diseases, with special regard to exposure to carcinogenic substances 27. Cardiovascular prevention 28. Organization of integrated health sytems 29. Pathogenesis of allergic plurimorbidity from infancy to adolescence 30. Role of GLP-1 receptor agonists in brain degenerative disease
Training objectives	The Ph.D. program in Medical Sciences aims at developing the professional skills of the Ph.D. student in order to facilitate the integration between clinical and epidemiological studies and experimental lab research. The close relationship with the Clinics will allow the Ph.D. students to face real world clinical problems, encompassing diagnosis, therapy, prevention and rehabilitation, closely intertwined with human diseases and patient care. The connections between lab research and clinical research will facilitate the fast translation of experiment borne methods and discoveries into clinical practice. The goals of this Ph.D. program, therefore, embrace: 1. Bedside patient care; 2. Epidemiologic investigation of at risk populations; 3. Tireless quest of the pathophysiological bases of disease through hypothesis generating and hypothesis testing research in experimental cells, tissues and animals. The fast, bidirectional exchange between bench and bedside will feed the lab with the results of clinical/epidemiological observations, thereby linking experimental research to questions and suggestions stemming from human derived evidence. In addition to a central core of scientists in Internal Medicine and Occupational Medicine, the Faculty of this Ph.D. program can rely on many a member belonging to the whole range of Medical Sciences.
Academic degree required	Laurea pursuant to the previous university system, laurea specialistica or laurea magistrale, or a foreign academic qualification that has been recognized as equivalent

POSITIONS PUT OUT TO COMPETITION	
With Scholarship	8
Without Scholarship	2
TOTAL	**10**

KIND OF SCHOLARSHIP		
N°	***Funding entity***	*Research Topic, if any*
2	Scholarship Ministerial funds	• Phenotypes and endotypes in allergic diseases • Biology of atherogenesis: role of drugs and biological disruptors
1	Scholarship University funds	**--**

1	Funded by the NHS Local Agency of Parma	• Promote and facilitate the return to work of heart disease by defining the true extent of the energy cost of labor among patients-workers, through the study of on-site energy expenditure
3	Funded by University Hospital Company of Parma	• Traslational medicine in hepatitis • Traslational medicine in respiratory deseases • Traslational medicine in ob-gyn diseases
1	Co-funded by Fondazione Cariparma	• Traslational medicine in oncology
Research Topic of Positions Without Scholarship		
1	**Position without scholarship**	• Models of cell immunotherapy

ADMISSION PROCEDURES	
Assessment of QUALIFICATIONS: up to 30 points **WRITTEN EXAM:** up to 60 points **ORAL EXAM:** up to 30 points **Minimum score for ELIGIBILITY**: 70/120	
Foreign Language	Language the fluency of which shall be assessed during the Written Exam and Oral Exam: **ENGLISH**. The evaluation of the knowledge of this language will be written/oral and will consist in reading and traslating of a scientific text.
Possibility of videoconference for candidates residing abroad	**NO**

LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT		
Graduation thesis	Abstract of the graduation thesis (**mandatory qualification**)	**Up to 5 points**
Curriculum Vitae et studiorum and other qualifications	Including academic career and postgraduate experience, accompanied with a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark (**mandatory qualification**)	**Up to 10 points**
Research Project	The research project shall consist of a maximum of 3 pages, be written in Italian or in English, focus on an original research topic and it shall be structured as follows: introduction of the problem in the scientific context, significance of the problem, expected results, argumentation. It shall amount to no commitment on the subsequent choice of the doctoral thesis	**Up to 5 points**
Scientific pubblications	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.	**Up to 5 points**
Reference Letters	Witten by professors or researchers at the University of origin of the candidate or from other universities or from experts in the research areas working in public or private research facilities	**Up to 3 points**
Other qualifications	Awarding of Scholarships, prizes, trainings, etc.	**Up to 2 points**

SCHEDULE OF THE ADMISSION EXAMS	
WRITTEN EXAM	**DATE:** 21 september 2016 **TIME:** 09:00am **PLACE:** – Department of Clinical and Experimental Medicine Via A. Gramsci, 14 – 43126 PARMA - ITALY
ORAL EXAM	**DATE:** 21 september 2016 **TIME:** 04:00pm **PLACE:** – Department of Clinical and Experimental Medicine Via A. Gramsci, 14 – 43126 PARMA - ITALY
Written Exam topics	The Written Exam will focus on a research project on which to develop the PhD, including the abstract in English.
Oral Exam topics	The Oral Exam will focus on Research Project presented the written examination.