ONCOLOGY AND EXPERIMENTAL PATHOLOGY

Coordinator
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Websites
http://patologia-sperimentale.unibo.it/Dottorato/frm-main.php
http://www.dimes.unibo.it

Duration
3 years

Academic year
2013/2014

Programme start date
01/01/2014

Programme held in
Italian

Main Department
Department of Experimental, Diagnostic and Specialty Medicine

Associated Unibo Departments
Department of Medical and Surgical Sciences
Department of Biomedical and Neumotor Sciences

Partner Institutions
The Istituto Superiore di Oncologia - Consorzio interuniversitario ISO- (collaborative agreement) - Italy
And associated with The Istituto Superiore di Oncologia:
John Hopkins University - Dept. Medical and Arts and Sciences Schools - USA
Paris XI France - France
Universidad Autonoma de Madrid Spain - Spain
National Institute of Health NIH Bethesda MD, USA - USA
Fondacion centro Nacional de Investigaciones Oncologicas Carlos III Spain - Spain
Federele di S. Paulo Brasil - Brasil
Albert Einstein Medical School, University "Yeshiwa", New York USA - USA
Libre de Bruxelles Belgium - Belgium
Centre Hospitalier de 'Universite del Montrèal, Quebec Canada - Canada
Ohio State University, Columbus, Ohio USA - USA
Universidade do Porto Portugal - Portugal
University of Madras, Chennai India - India

Research topics

Curriculum: Oncology

1) Research activity in the field of Radiotherapy, Oncological Radiodiagnostic and Radiobiology.
2) Rare tumors. Palliative medicine.
3) Neoplastic pathology of mammary gland and of squamous cancer of oral cavity.
4) Environmental carcinogenesis and tumor primary prevention by screening substances and complex mixtures; evaluation of the risk associated to exposure to carcinogenic agents. Determination of early molecular markers of exposure to carcinogens.
5) Tumor immuno prevention and immunotherapy.
6) Molecular oncology and targeted therapy of musculoskeletal sarcomas. Genomics and proteomics of sarcomas to identify prognostic and predictive factors.
7) Research activity to develop new therapies in pediatric oncohematology, in particular on neuroblastoma, acute myeloid leukaemia, type B lymphoproliferative diseases (leukemias and lymphomas).

Curriculum: Experimental Pathology

1) Molecular pathology of implant-associated infection: search for virulence factors (slime, adhesions) and resistance to antibiotics by opportunistic microorganisms as ethiologic agents of periprosthesic infections and pathogenetic mechanisms leading to irreducibility of infection and clinic plant failure.
2) Vegetable toxins with N-glycosylasic activity: mechanisms of cytotoxicity and molecular targeting for drugs.
3) Experimental models of tumor cells which are genetically modified by gene transfer with cDNA of glycosyltransferases. Such enzymes assemble glycic chains in glycoproteins. The study of these modified cell lines allows understanding of the impact of a particular modification of glycosylation on tumor phenotype.
4) Relationships among qualitative and quantitative changes of ribosomal biogenesis, and tumorigenesis.
5) Genetics of ageing and longevity.
6) Allelic polymorphisms capable of identifying risk factors associated to dementia and Alzheimer disease.

Curriculum: Clinical and Experimental Hematology

1) Typing of neoplasia of hemolymphopoietic system for establishing prognosis and therapy
3) Stem cells.
4) Acute and chronic myeloproliferative diseases.
5) Lympho(immuno)proliferative diseases.

Requirements and admission procedures

Requirements
An Italian university degree (laurea specialistica/ magistrale - 3+2 years) or pre-reform degree (vecchio ordinamento - 4 years) or an equivalent degree obtained abroad. Also applicants whose degree will be awarded no later than December 31, 2013 can participate to the selection procedures.

Admission procedures
Evaluation of qualifications
Oral examination

Notes on admission
The oral examination can be held only in presence of the applicant. No oral examination via Skype/webcam is allowed.
Mandatory documents to be enclosed with the online application (failure to comply with such requirements will result in the exclusion from the competition)

1. CV
2. copy of Bachelor’s and Master’s degree, list of exams taken with grades and final mark (in Italian or English)
3. only for those who do not hold a Master’s degree when submitting the application: copy of the exams taken with grades

For documents listed at points 2. and 3., please note that:
- for degrees obtained in Italian Universities: upload a SIGNED self-declaration;
- for degrees obtained in non-EU Countries: upload the degree certificate issued by the relevant University;
- for degrees obtained in EU countries (except Italy): you can either upload a SIGNED self-declaration or the degree certificate issued by the relevant University, translated in Italian or English;
- all documents must contain the following information: personal data, name of the University, degree name, final score, transcript (see art. 2 of the call).

Other documents to be enclosed, if available
Scientific publications on national or international journals, minor publications (abstract, poster, etc.)

Agenda

<table>
<thead>
<tr>
<th>Description</th>
<th>When</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of qualifications</td>
<td>31/10/2013</td>
<td>Department of Experimental, Diagnostic and Specialty Medicine - Patologia Generale (applicants presence is not requested)</td>
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<tr>
<td>Oral examination</td>
<td>04/11/2013</td>
<td>Department of Experimental, Diagnostic and Specialty Medicine - Patologia Generale via S. Giacomo 14, Bologna Aula II</td>
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</tbody>
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Time | 9:30 a.m.

Assessment criteria

The evaluation is expressed as an overall score of max 100 points, distinct as follows:

Total score: 100/100

1. Evaluation of qualifications
   - minimum score required for the admission to the oral exam: 30
   - maximum score: 50
   Score is assigned as follows:
   - Curriculum: evaluation of the degree mark (in the case of applicants who have a degree / master's degree or Master's course or graduation old system) or evaluation of average mark of passed exams obtained in the course of university studies (in the case of applicants not owing the degree, but will get it by December 2013): max 45 points
   - Scientific publications on national or international journals: max 4 points
   - Minor publications (abstract, poster, etc.): max 1 point
   The results of the evaluation of qualifications will be posted on the bullet board of the Department and on the site http://studenti.unibo.it, restricted access by University credentials (by selecting: sintesi delle richieste in corso → vedi dettaglio → risultati prova). The results of the evaluation of qualifications will also be published in the PhD websites: http://patologia-sperimentale.unibo.it/Dottorato/frm-main.php; http://www.dimes.unibo.it

2. Oral examination
   - minimum score required in order to be listed in the final ranking: 30
   - maximum score: 50
   The oral examination will assess the applicant’s aptitude for scientific research, as well as her/his general knowledge about the research topics of the PhD programme.
   The results of the oral examination will be posted on the bullet board of the Department and on the site http://studenti.unibo.it (by selecting: sintesi delle richieste in corso → vedi dettaglio → risultati prova). The results of the oral examination will also be published in the PhD websites: http://patologia-sperimentale.unibo.it/Dottorato/frm-main.php; http://www.dimes.unibo.it
   The final ranking with details of winners will be published on the site http://studenti.unibo.it, restricted access by University credentials. Any information concerning the publication of the final ranking will be available on www.unibo.it/Dottorati/Bandi29.
   The Admission Board will not send any communication to the applicants about the outcome of the tests. It is the responsibility of the applicants to be informed on the outcome (see art. 6 of the call).

Language requirements

During the oral examination the knowledge of the following foreign language: English will be assessed.
The oral examination will be carried out in Italian. Foreign applicants can hold the oral examination in English.
For foreign applicants the knowledge of Italian is required.

Positions and scholarships

Total number of positions: 10, of which:
- 4 positions with scholarship granted by University of Bologna
- 1 position with scholarship "Fondo Giovani 2012” granted by MIUR, committed to the Scope of Investigation 1 "Human health (study and treatment of cancer and degenerative diseases: new approaches based on knowledge of the human genome)"
- 5 positions without scholarship