# PhD Programme

**CHEMISTRY AND MATERIALS SCIENCES**

**President:** Prof. Lorenzo Di Bari

**Department:** Department of Chimica e Chimica Industriale - Via Giuseppe Moruzzi 13 56124 Pisa

**Admission requirements:** Any Master’s degree

**Outcome of the selection procedure:**
- Ranking of the research project in “Disposable chemical sensors”

## PhD Positions Available

| Positions available 1 | of which: 1 with grant |

## Details:

1. grant financed by Department of Chimica e Chimica Industriale on subject: “Disposable chemical sensors”

## Selection criteria:

### Curriculum

The curriculum, signed and accompanied by a copy of a valid identification document, shall be uploaded only during the application process. The curriculum must provide information about the candidate’s academic education as well as his/her professional and research experience. The candidate shall attach all the documents useful for the assessment of his/her curriculum. Candidates are invited to upload their documents: the transcript of records and/or the list of exams taken during the Master course with the relative grades; the Certificate of Proficiency in English (Level B2 or higher).

**Minimum grade: 30 out of 50**

### Written examination

The written exam will verify the candidates’ fundamental knowledge as well as their critical and reasoning attitudes. It will consist of a series of exercises/short dissertations on concepts of chemistry and materials science: among them each candidate shall select a definite number of questions and provide synthetic answers in a limited space. All questions will be in English, although the candidates can choose English or Italian for their answers.

**Date:** 4th September 2018  **Time:** 11.00 a.m. (Italian Time)

**Venue:** Department of Chimica e Chimica Industriale - Via Giuseppe Moruzzi 13 56124 Pisa

The list of candidates admitted to hold the written examination shall be published at [http://dottorato.unipi.it/ “Admissions” at least five days before the written examination.](http://dottorato.unipi.it/)
| **Interview** | **Minimum grade: 12 out of 20**  
|              | The interview will assess the candidate’s knowledge, her/his aptitude for research, openness to academic experiences in Italy and abroad and an interest in scientific deepening. For the candidates who chose Italian in the written test, the English Language Proficiency Level will assess during the oral exam.  
|              | **Date 4th September 2018 Time: 16.00 (Italian Time)** with the possible prolongation to the following day/s (excluding Saturdays or Sundays).  
|              | **All candidates shall be present on the first day of meetings to ascertain the interview schedule.**  
|              | **Venue:** Department of Chimica e Chimica Industriale - Via Giuseppe Moruzzi 3 56124 Pisa  
|              | **Minimum grade: 20 out of 30**  
|              | **Webconference:** NO  

| **Guidelines for the presentation of the PhD Research project** | **Required:** YES to be illustrated at the interview  
|                                                            | The candidate must upload the research project during the online application process **within the deadline of the announcement**. The research project will be discussed by the candidate during the interview in order to highlight his/her project planning capabilities. The research project cannot be longer than 2 A4 pages with font size not less than 11 and line spacing not less than 1.5  

| **INFO:** | **Overview and objectives of the PhD course:**  
|           | The Doctorate in Chemistry and Materials Science (DSCM) aims to educate young graduate students to the most advanced research methods in the field. PhD students will learn how to face and solve complex problems thanks to the expert use of experimental, computational, and theoretical techniques in a multidisciplinary research environment. Aspects of molecular, supramolecular, as well as of organic and inorganic materials will be covered. The DSCM students will access all instruments available within the Department of Chemistry and Industrial Chemistry (DCCI), the Library of Chemistry. They will find wide scientific and technical support in the Faculty members and the collaborators of DCCI. Each PhD student will develop his/her own original research project in one of the most modern and advanced fields of Chemistry and Materials Science, like for example: Molecular Modeling; synthesis and characterization of molecules, aggregates, polymeric and hybrid functional materials, including nanostructured ones; study of spectroscopic, thermodynamic and magnetic properties of single molecules and of assemblies; energy
storage and transport processes; innovative analytical methods for environmental, clinical and cultural heritage samples; reaction mechanisms, intermolecular interactions and molecular recognition; catalysis and sustainable chemical processes; management of environmental and natural resources.

Website:  
http://www.dcci.unipi.it/home-dottorato-chimica-materiali.html