**PhD programme**  
CHEMISTRY AND MATERIALS SCIENCES

**President:**  
Prof. Gennaro Pescitelli

**Department:**  
Dipartimento di Chimica e Chimica Industriale – Via Giuseppe Moruzzi 13 – 56126 Pisa

**Admission requirements:**  
All Master’s degrees

**Outcome of the selection procedure:**  
- Ranking of each research project: “Preparation of mechanocromic polymeric materials”

**PhD Positions Available**  
Positions available 1  
of which 1 with grant

**Supernumerary positions**  
Pursuant to Article 6 of the competition announcement, candidates who are eligible for the competition to be admitted in supernumerary must forward, to the email address concorsodottorato@unipi.it, Annex C after having held the interview but no later than three days thereafter on the date of the latter.

**Details:**  
1 grant financed by Department of Chimica e Chimica Industriale of University of Pisa on subject “Preparation of mechanocromic polymeric materials”

**Selection criteria:**

**Curriculum**  
The curriculum, signed and accompanied by a copy of a valid identification document, must 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 must attach any document 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).

The candidate who intends to submit to the evaluation of the Selection Board any document related to his/her academic records held at the University of Pisa, must make an explicit request of acquisition “through office” in the aforementioned curriculum.

**Minimum grade:** 30 out of 50

The list of candidates who are invited to take a written examination will be published at [http://dottorato.unipi.it/](http://dottorato.unipi.it/) “Admissions” should take place at least five days before the written examination
### Written examination

The written exam will verify the candidates' fundamental knowledge as well as their critical and reasoning attitudes. The candidate may carry out the written test in Italian or English. 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.

**Minimum grade: 12 out of 20**

The test schedule (where applicable) and venue, will be published the 30 of May 2019 at http://dottorato.unipi.it/ - "Admission and enrolment".

### Interview

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.

**Minimum grade: 20 out of 30**

The test schedule (where applicable) and venue, will be published the 30 of May 2019 at http://dottorato.unipi.it/ - "Admission and enrolment".

### Web conference:

**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 by the deadline of the announcement. In order to highlight the capacity to carry out the project, the research project will be discuss it during the interview. The research project cannot be longer that 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

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