PHD PROGRAMME TABLE
Announcements of competition for admission to PhD Courses
42nd cycle, Academic Year 2026/2027

PhD Course: MODELS AND METHODS FOR MATERIAL AND ENVIRONMENTAL SCIENCES
Available positions: 9
Evaluation Methods: academic and research records and interview

Available positions:

Place n.	Description	Financial support	Specific research topic
1	Scholarship	University scholarship	-
2	Scholarship	University scholarship	-
3	Scholarship	University scholarship funded by Fondazione di Modena	-
4	Scholarship	University scholarship funded by Fondazione di Modena	-
5	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences – FISA-2024-00228 project – CUP E93C25001460001 - Prof. Paolella	Optimization of electrolytes for lithium metal–based solid-state batteries
6	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences – FISA-2024-00228 project – CUP E93C25001460001 - Prof. Paolella	New current collectors for lithium metal–based solid-state batteries
7	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences – FISA-2024-00228 project – CUP E93C25001460001 - Prof. Paolella	In operando analysis of electrolyte degradation in lithium metal batteries
8	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences FARDIPARTIMENTALE2025 project and co-funded by FIB s.p.a	Advanced Characterization of Li and Na-ion based battery materials using Electron Microscopy
9	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences and co-funded by Université de Bretagne Occidentale*	Rational Design of Macrocyclic and Acyclic Chelators for Scandium-44 and Titanium-45 toward Radiopharmaceutical Applications

* This position involves carrying out the thesis under a joint supervision agreement with the Université de Bretagne Occidentale, with a mandatory 12-month mobility period at the foreign institution.

Areas of the PhD Programme: The Course aims to train experts in advanced research methodologies in environmental and material sciences, in respect of the research fields of the teaching staff (http://www.m3es.unimore.it/site/home.html). The research doctor will be able to operate in one or more of the following fields: processes regulating the transfer of elements and compounds from geosphere to hydro- and biosphere forecasting; prevention and mitigation of natural risks; identification and

optimal use of resources; study, conservation and appraisal of cultural assets; environmental impact of human activities; chemical sustainable strategies; preparation and characterization of materials with innovative functional properties; devices and methodologies for electrochemical sensing suitable to work in real systems; computational multi-scale strategies; chemometrics, multivariate analysis of signals and images and themes related to Big Data and 'Industry 4.0'.
Official language of the programme: English. All international PhD students are encouraged to learn Italian during the course.
Further information is available on the PhD Programme website at the following link http://www.m3es.unimore.it/site/home/research/phd-thesis-proposals.html, which contains the themes proposed for 42nd cycle.

Admission requirements: Italian second cycle master's degree ("Laurea Magistrale", under D.M. 270/04 or "Laurea Specialistica", under D.M. 509/99) or Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call.

Documents to be attached to the application:

1) In order to express interest in also competing for the scholarships linked to a specific research topic, candidates must complete and attach the file "Declaration of priority interest to compete for scholarships linked to a specific research topic"
2) Degree certificate (or self-certification for Italian degrees) and Transcript of Records including the full list of examinations. Applicants with a non-Italian degree must attach their certificate (including the full list of examinations with corresponding marks) and a legalized translation or Diploma Supplement and, if available, the Declaration of Value ("Dichiarazione di Valore in loco") issued by the competent Italian diplomatic-consular Representation, or the certificates issued by the CIMEA - ENIC-NARIC centre. If the degree certificate is not yet available or if the degree has not yet been obtained, the candidate must attach a description of the degree with a list of the examinations taken using Annex A;
3) a Curriculum Vitae (CV) including their scientific and teaching activities in Italian or English; any qualifications listed in the curriculum must also be properly certified or self-certified in the appropriate section for qualifications;
4) a summary, in Italian or English, of the Master's thesis (or equivalent), consisting of a minimum of two and a maximum of four pages, and structured as follows: thesis motivations, research methods, and results achieved; this summary must also be submitted by candidates who have not yet completed their final degree examination;
5) statement of Research Interest: a short text, no longer than two pages and written in English, divided into two sections:
   a) Motivation, outlining the candidate's reasons for applying to the PhD Programme (max ½ page);
   b) A description of a hypothetical research project based on one of the PhD topics listed on the website: http://www.m3es.unimore.it/site/home/research/phd-thesis-proposals.html, which includes the proposed research topics for the 42nd cycle. The candidate should outline a project aligned with their specific research interests, specifying the main research questions, methodologies, and objectives.

6) possible certificates of English competence (TOEFL, CAE/Proficiency or others), if available;
7) any letters of introduction/recommendation/reference (maximum three); in the online application, applicants must enter all the personal details of the professor/researcher/expert who will be sending the letter of recommendation. Once the application has been submitted, the computer system will send an automatic e-mail to the contact person requesting the letter of recommendation. The deadline for uploading letters is June 30th 2026, 11.59 pm (CET); applicants can check on the application summary page whether the contact person has sent the cover letter/recommendation. Within the aforementioned deadline, applicants may send a reminder to the contact person who has not yet done so by selecting the 'reminder' item from the application summary page;
8) any other document considered useful for the candidate's assessment and/or scientific publications; candidates must provide a full list of all the documents and publications attached;
9) a copy of a valid identity document.

Evaluation criteria:

For the evaluation of qualifications, the Selection Committee has at its disposal a score up to a maximum of 60 points, divided as follows:

- Academic and research records: from 0 to 30 points

- Curriculum vitae of studies and congruity of the exams taken and the topics of the dissertation respect to the PhD topics: from 0 to 15 points;
- Publications, conference presentations, patents, post-master schools/formation courses: from 0 to 5 points;
- Other qualifications: certification of proficiency in English, letters of introduction, description of the research project (Statement of Research Interest), study periods abroad, etc: from 0 to 10 points.

Candidates will be admitted to the interview if the evaluation of their presented qualifications has reached a score of at least 15 points out of the 30 available.
The list of the candidates admitted to the interview, and any variation in the selection procedure, will be published before July 15th, 2026 at the following University website: https://www.unimore.it/en/bando-phd-42.

- Interview: from 0 to 30 points

A valid identity document or passport must be submitted.
The interview will focus on the description of a hypothetical research project based on one of the doctoral thesis topics listed on the website (http://www.m3es.unimore.it/site/home/research/phd-thesis-proposals.html), which outlines the proposed theses for the 42nd cycle.
The evaluation will be based on the scientific soundness of the project, its feasibility, and its alignment with the PhD programme topics. The interview will be partially conducted in English, with the option for candidates to take the full interview in English.

Once the evaluation of the qualifications and the interview have been completed, the Commission will draw up a merit-based ranking list on the basis of the marks awarded to the candidates. A pass is achieved where candidates are awarded a minimum score of 36/60.

For the thematic scholarships “Optimization of electrolytes for lithium metal–based solid-state batteries”, “New current collectors for lithium metal–based solid-state batteries”, “In operando analysis of electrolyte degradation in lithium metal batteries” e “Advanced Characterization of Li and Na-ion based battery materials using Electron Microscopy”, the committee will express a judgment of eligibility exclusively for candidates who have indicated their interest, based on the following evaluable criteria:

- Master’s degree (“Laurea Magistrale”, under D.M. 270/04) in one of the following classes: LM-54 Chemical Sciences or LM-71 Industrial Chemistry and Technology; or equivalent Italian second cycle master's degree (“Laurea Specialistica”, under D.M. 509/99) in the following classes: 62/S Chemical Sciences or 81/S Industrial Chemistry and Technology; or Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) in Chemistry or Industrial Chemistry; or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call;
- Relevance of the candidate's academic background to the scholarship topic.

For the thematic scholarship “Rational Design of Macrocyclic and Acyclic Chelators for Scandium-44 and Titanium-45 toward Radiopharmaceutical Applications”, the committee will express a judgment of eligibility exclusively for candidates who have indicated their interest, based on the following evaluable criteria:

- Master’s degree (“Laurea Magistrale”, under D.M. 270/04) in one of the following classes: LM-54 Chemical Sciences, LM-71 Industrial Chemistry and Technology, LM-13 Pharmacy and Industrial Pharmacy or equivalent Italian second cycle master's degree (“Laurea Specialistica”, under D.M. 509/99) in the following classes: 62/S Chemical Sciences, 81/S Industrial Chemistry and Technology, 14/S Pharmacy and Industrial Pharmacy; or Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) in: Chemistry or Industrial Chemistry, Pharmaceutical Chemistry and Technology or in Chemistry and Pharmaceutical Technology; or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call;
- Relevance of the candidate's academic background to the scholarship topic.

Assessment of candidates’ suitability for the reserved position will not affect the marks awarded to the candidates, but is necessary to attribute the position with a specific research topic to suitable candidates. The position will be awarded, to the candidate with the highest score in the ranking list among those who have expressed priority interest for the specific research topic and have been deemed suitable for the position.

INTERVIEW SCHEDULE

In-person interview: **July 23rd 2026, 9:30 a.m.** The interview will take place in the **room U0.3 at the Department of Chemical and Geological Sciences, Via Giuseppe Campi, 103, Modena**. Interviews could continue on **July 24th 2025, 9:30 am.**, in the room U0.3 at the Department of Chemical and Geological Sciences, Via Giuseppe Campi, 103, Modena, should there be a high number of candidates

Interview via Microsoft Teams (allowed for each candidate, regardless of residence): **July 23rd 2026, 9:30 a.m.**, Interviews could continue on **July 24th 2026, 9:30 a.m.**, should there be a high number of candidates.

Link to Microsoft Teams dedicated: Admission interview for the XLII cycle of the PhD Programme in Models and Methods for Material and Environmental Sciences