

## PhD in THEORETICAL AND EXPERIMENTAL LINGUISTICS

<b>Coordinator</b>	Prof. Valentina Bambini e-mail: <a href="mailto:valentina.bambini@iusspavia.it">valentina.bambini@iusspavia.it</a>
<b>Scientific fields</b>	L-LIN/01; M-PSI/01; M-PSI/02; MED/25; MED/27
<b>Brief description</b>	<p>The PhD program in Theoretical and Experimental Linguistics is a full-time 3-year program offered by IUSS. The doctoral program aims at training scholars in the field of linguistics, considering both theoretical and experimental approaches. In particular, the program focuses on studies in the areas of theoretical syntax, experimental pragmatics, and computational linguistics, taking into account both formal descriptions and psycho/neurolinguistic investigations. Research activities are based also on national and international collaborations promoted by IUSS, very often within interdisciplinary contexts encompassing in particular the fields of psychology and medicine.</p> <p>The PhD program will especially promote research projects in the following domains, also combined:</p> <ul style="list-style-type: none"> <li>- Theoretical syntax</li> <li>- Neurosyntax</li> <li>- History of the linguistic thought</li> <li>- Computational linguistics</li> <li>- Corpora and language modelling</li> <li>- Processing and complexity</li> <li>- Language disorders</li> <li>- Language acquisition</li> <li>- Experimental pragmatics</li> <li>- Neuropragmatics</li> <li>- Clinical pragmatics</li> <li>- Developmental pragmatics</li> </ul> <p>For further information, see the <a href="#">IUSS website</a>.</p>
<b>Language</b>	English
<b>Duration</b>	3 years
<b>Number of positions available</b>	<p>11 positions, of which:</p> <ul style="list-style-type: none"> <li>- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR) - DM 118/2023 – Research PNRR, on the following topic: <i>Theoretical syntax</i>. Topics will include: analysis and derivation of clause structure domains with special emphasis on the configurational correlates of the subject-predicate link; relationship between typological taxonomies and generative procedures; the role of symmetry and symmetry-breaking phenomena in syntax.</li> <li>- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR) - DM 118/2023 – Research PNRR, on the following topic: <i>Experimental syntax</i>. Topics will include: foundational issues pertaining to the relationship between human brain activity and syntax; empirical issues: grammaticality judgments, behavioral tests (reaction times, eye-tracking, etc.), neuroimaging (PET, fMRI), neurophysiology (EEG, ERP, MEG, TMS) or invasive techniques (awake surgery techniques, SEE, IcEEG).</li> <li>- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR) - DM 118/2023 – Research PNRR, on the following topic: <i>Computational Linguistics</i></li> </ul>

*and language modeling.*

Topics will include: development, valuation and validation of theoretical explicit models of linguistic processing (including predictive models of difficulty/complexity based on Minimalist Grammars) and possible comparison with sub-symbolic generative models (GPT-like, based on machine-learning approaches).

- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR)  
- DM 118/2023 – Research PNRR, on the following topic: *Computational perspectives on linguistic acquisition and degeneration.*

Topics will include: Theoretical and experimental studies aiming at the assessment of explicit models for (typical and/or atypical) linguistic acquisition and/or degeneration (Primary Progressive Aphasia, Alzheimer...). Projects including corpus studies (creation of new resources and/or quantitative analyses) will be especially appreciated.

- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR)  
- DM 118/2023 – Research PNRR, on the following topic: *Advancing neuropragmatics via computational modelling*

The project will be developed within the field of neuropragmatics, focusing on joint approaches combining probabilistic frameworks (e.g., the Rational Speech Act) and advanced computational modelling with neural data obtained via EEG recording, to spell out the neurobiological groundings of specific pragmatic operations.

- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR)  
- DM 118/2023 – Investment 4.1 Cultural heritage, on the following topic: *Psycho- and neuro-linguistic investigations on the Italian language*

The project will deal with the study of linguistic processes via psycho- and neuro-linguistic approaches, also in relation to the understanding of implicit and metaphorical meanings occurring in texts, with a special focus on the Italian language.

Institution involved: Accademia della Crusca

- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR)  
- DM 118/2023 – Investment 4.1 Cultural heritage, on the following topic: *Critical review of historical linguistic sources that are available in Italian cultural institutions.*

This research concerns both the review and the critical evaluation of linguistic sources that can be found in Italian cultural institutions.

- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR)  
- DM 118/2023 – Investment 4.1 Public Administration, on the following topic: *Theoretical and Statistical Language Models for Automatic Text Processing in Legal Contexts.*

The research will bear on the development and testing of both formally explicit and machine learning-based models to support automatic linguistic processing in the domain of the Digital Trial transition. Relevant research aspects to be possibly included in the projects are: evaluation of discourse coherence; measurement of complexity and lexical, syntactic and semantic ambiguity; anaphora resolution and inter-/intra-textual cross-references; semi-automatic annotation procedures, abstractive text summarization.

Institution involved: Corte d'Appello di Milano

	<p>- 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR) - DM 118/2023 – Investment 4.1 Public Administration, on the following topic: <i>Linguistic and communicative skills in children with complex and traumatic histories and underserved populations.</i> The project will deal with the study of linguistic and communicative skills in children belonging to deprived contexts and other underserved populations, including the identification of the aspects of major difficulty and possible intervention strategies. Ente coinvolto: Tribunale dei Minorenni di Milano</p> <p>- 1 position with scholarship co-funded by National Recovery and Resilience Plan (PNRR) - DM 117/2023 – Investment 3.3. Innovative Doctorates, on the following topic: <i>Multimodal predictive models and language.</i> The project aims to produce new research in the field of machine learning applied to language, also in different communicative modalities, focusing on the development of advanced models able to formulate predictions based on different kinds of data, including textual, numerical and visual information, with the goal of increasing predictive capabilities and rationalization of data collection and management. Company involved: Miningful</p> <p>- 1 position with scholarship co-funded by National Recovery and Resilience Plan (PNRR) - DM 117/2023 – Investment 3.3. Innovative Doctorates, on the following topic: <i>Language and rehabilitation.</i> The project aims to investigate the role of language produced by patients in the context of motor, cognitive and linguistic rehabilitation, also in relation to possible novel communicative approaches from the side of the trainer. Company involved: Istituzione Comunale Villa Miari</p>
<p><b>Submission deadline for the online application</b></p>	<p><b>22 June 2023 at 13:00 (CEST)</b></p>
<p><b>Mandatory documentation* to be attached to the online application</b></p> <p><i>*failure to upload the documentation referred to in (a) and (b) will result in exclusion from the competition procedure</i></p>	<p>a) a PDF copy of a valid identity document; b) self-certification of the Master Degree Certificate (Italian or UE educational qualification), or Copy of the MSc Degree Certificate (NON-EU educational qualification); c) self-certification of the Bachelor Degree Certificate (Italian or UE educational qualification), or Copy of the Bachelor Degree Certificate (NON-EU educational qualification); d) diploma Supplement/Transcript/or similar document of Master Degree Certificate; e) diploma Supplement/transcript/or similar document of Bachelor Degree Certificate; f) research project (<a href="#">see guidelines on the IUSS website</a>). <u>The candidate who intends to compete for more than one scholarship is required to submit a project for each of the scholarship he/she is applying for. Up to a maximum of <b>three preferences</b> may be expressed. Please note that both expression of interest and order of the preferences are binding for the scholarship assignment. (NB: the topic of the scholarship must be included in the header of the project).</u> g) self-certification of arithmetic mean of the grades for the exams taken in the bachelor's and master's degrees, with possible grade ranges (through the application procedure); h) self-certification of graduation grade with range of possible grades (through the application procedure);</p>

<b>Qualification assessment</b>	<p>a) diploma Supplement/Transcript/or similar document of Master Degree Certificate;  b) diploma Supplement/transcript/or similar document of Bachelor Degree Certificate;  c) research project (<a href="#">see guidelines on the IUSS website</a>);  d) academic and professional CV;  e) publications;  f) recommendation letters (maximum n. 2), sent by the referees through the online system, within the deadline of the call.</p>
<b>Interview and evaluation</b>	<p>The selection will be performed through the assessment of the qualifications listed in the section "Qualification assessment" (<b>maximum 50 points</b>) and through an interview (<b>maximum 50 points</b>). The Selection Board will therefore award a <b>final score from 1 to 100</b>.</p>
	<p>The Selection Board will assess the submitted scientific qualifications awarding a score up to 50 points. The candidates obtaining a score of at least <b>36/50</b> in the assessment phase, will be accepted to the interview. Candidates are not required to be present during the assessment of qualifications.</p> <p>The interview may also be carried out online, as long as the candidate can be identified. The interview will entail a discussion about the scientific background and skills of the candidate and about the research that the candidate would like to conduct, as well as technical/scientific questions, with the aim of ascertaining the candidate's background, vocation and aptitude for research. Candidates obtaining a score below <b>36/50</b> in the interview will not be eligible to be admitted to the programme hence not part of the ranking list.</p> <p><b><u>During the interview, the selection board will verify that the candidate has the necessary fundamental knowledge and skills to attend the doctoral course and evaluate the eligibility for the research topics of the scholarships selected, also based on the research project/s submitted.</u></b></p> <p>IUSS Pavia will notify the scholarship holders of their admission to the programme using the e-mail address provided in the application.</p>
<b>Test schedule</b>	<p>The results about the evaluation process will be published on the IUSS website <a href="http://www.iusspavia.it">http://www.iusspavia.it</a></p> <p>The interviews will be carried out on <b>06/07/2023 at 10:30 CEST</b>, at the IUSS building or online, via Zoom.</p>
<b>Information</b>	<p>e-mail: <a href="mailto:postlaurea@iusspavia.it">postlaurea@iusspavia.it</a></p>