IMT SCHOOL FOR ADVANCED STUDIES LUCCA

**IMT School PhD Programs in "Cognitive and Cultural Systems"
and in "Systems Science"**

**Call for applications 2021/2022
Executive Summary
Deadline: June 30th, 2021 (12:00 pm CEST)**

PHD PROGRAMS DESCRIPTION

The IMT School for Advanced Studies Lucca has launched the call for applications for the PhD Programs in "Cognitive and Cultural Systems" and in "Systems Science" (academic year 2021/2022):

	Description
PhD in "Cognitive and Cultural Systems" **Track in "Analysis and Management of Cultural Heritage"** **(AMCH)**	Cultural contexts, cultural productions, and cultural heritage have highly significant impacts on and are highly impacted by the societal, political, economic, and technological dynamics of contemporary societies at the individual, collective and institutional levels. Such dynamics (and the rapid changes they undergo) require both academics and professionals to learn how to formulate complex questions in order to face complex challenges and solve complex problems. The humanities and the social sciences, with selected interactions with the hard and technological sciences, play a fundamental role in the innovative formulation or reformulation, analysis and management of such issues by adopting both disciplinary and rigorously focussed interdisciplinary methodologies and perspectives. The Ph.D. track in Analysis and Management of Cultural Heritage (AMCH) has taken up this challenge some years ago, and continues to offer the opportunity to conduct autonomous but closely supervised innovative research on the complex range of challenges that emerge from cultural processes and concern cultural heritage as well as the related individual, societal and institutional practices at the local and the global level. At the same time, the track provides its students with both theoretical, methodological, and applicative training, disciplinary as well as interdisciplinary, and a set of competencies specifically aimed at the professional practices in the fields of cultural heritage.
	The research-based AMCH track is highly interdisciplinary. Alongside the consolidation and development of the traditional methodologies used in the fields related to cultural heritage as well as for the analysis of past and present cultural phenomena, processes, activities, and productions (such as Archaeology, History, Art History, Museology, Philosophy, etc.), the AMCH track proposes, on the one hand, the interdisciplinary expansion and integration of the range of methodologies and tools to be adopted (such as Cultural Heritage Law, Management, Economy, Economy of Culture, etc.); on the other hand, the track proposes a grafting, on these, of management and organizational skills and tools, also oriented by innovative methodologies.
	Furthermore, the Program includes innovation-oriented and interdisciplinary methodologies and tools to be integrated with traditional methods and tools for the analysis and management of cultural heritage as well as the analysis of historical phenomena and processes (such as Neuro- and Cognitive Science methodologies, IT methodologies, and Artificial Intelligence applied to the analysis, fruition,

	enhancement, and management of cultural heritage and cultural processes, Data Analytics, Machine learning, Networks Theory, Tools for impact analysis and evaluation, Digital Humanities).
	The AMCH track offers courses and research seminars in Archaeology, Art History, International Law, EU law and Domestic Law on Cultural Heritage and Landscape, History, Philosophy, Visual Studies, Aesthetics, Cognitive and neurofunctional aspects of visual perception, Visual Perception and Sensorial Modalities, Museology, Management of Cultural Heritage and Cultural Institutions, Management, Technologies applied to Cultural Heritage (related to analysis, fruition, and management), Introduction to Cybersecurity, Introduction to Networks. Both research- and practice-oriented courses constitute the program, which also includes the participation of students in innovative research projects as well as in field experience and off-site lectures at close contact with objects, artworks, and material culture in their institutional, curatorial, and management setting. The Program aims at training both qualified professionals and experts operating in the field of cultural heritage and researchers. It promotes research and the development of innovative analytical tools and methodologies by exposing the students to different research approaches and methodologies through case studies.
PhD in "Cognitive and Cultural Systems" **Track in "Analysis and Management of Cultural Heritage"** **(AMCH)**	*Input and Output Profiles* The track aims at providing specific know-hows to prospective academics and professionals operating in the fields of culture and cultural heritage. Prospective students should preferably have an undergraduate background in the Social Sciences, the Humanities, or ICT related to cultural heritage. This track will enable graduates to access: • Academic career in Archaeology, Art History, National, European and International Public and Cultural Heritage Law, Visual Studies, Philosophy, Economy of Culture, Management of Cultural Institutions and Cultural Heritage; • Careers in public and private institutions, bodies and companies operating in the fields of the protection, enhancement, management, and promotion of Cultural Heritage, analysis of Cultures, Cultural Productions and Cultural Heritage, promotion of Culture and Tourism, organization of cultural events, elaboration/implementation of policies for Culture and Cultural Heritage, management of innovation in the cultural sector, teaching and diffusion of research and culture. *Research Units contributing to the track* LYNX (main), AXES, MoMiLab, Networks, SysMA. Ph.D. candidates also have the opportunity to collaborate with other national and international institutions that work with IMT Research Units and PhD tracks.
	This research-based, multidisciplinary track focuses on cognitive, computational, and social neurosciences, and integrates basic neuroscience methods with experimental psychology, psychophysiology, and cognitive neuroscience. Students will attend multiple courses, including fundamentals in cognitive neuroscience, behavioural, and

PhD in "Cognitive and Cultural Systems" **Track in "Cognitive, Computational and Social Neurosciences"** **(CCSN)**	social neuroscience, neuropsychology, psychophysiology and biosignals, neural basis of perception and experience-dependent plasticity, neural basis of consciousness and sleep, philosophy of science, critical thinking, structural and functional neuroimaging, basic and advanced methods for the analysis of behavioural, psychometric and neuroimaging data, cognitive economics, and experimental social sciences. In particular, the CCSN track is designed to train researchers who will contribute to knowledge in areas such as multisensory perception, supramodality and cross-modality, experience-dependent plasticity, sleep and consciousness, action representation and motor control, emotions and social behaviour, neuroplasticity and learning, knowledge organization, neurolinguistics and semantic processing, social and antisocial behaviour, decision-making processes. Students will specifically receive intensive practical research training in methods, experimental design, and data analysis in the laboratories of the MoMiLab research unit. An overview of human brain anatomy, neuroimaging (mainly structural and functional MRI), and electrophysiological (high-density EEG, MEG) methodologies will address research and clinical applications in humans. Within the interdisciplinary orientation of the IMT School, students will be exposed to seminars and conjoint research projects on different topics, ranging from cognitive neuroscience of human behaviour to advanced computational methods for the analysis of complex systems, from social neuroscience to decision-making processes in economic systems, from neuro-engineering applications in bionics to complex networks, from the neural bases of perception and conceptual representation to the image analysis and management of cultural heritage. *Input and Output Profiles* Candidates with a solid background in psychology, neuroscience, medicine, bioengineer and bionics, computer sciences, philosophy and logic, linguistics, social sciences, economics are strongly encouraged to apply. Because of the multidisciplinary nature of this doctorate track, applications are anyhow welcome from any area of knowledge, including both scientific and social fields and humanities. Graduates from this doctorate track will be able to pursue a career in research and academic institutions, as well as in the private sector. *Research Units Contributing to the track* Mainly the MoMiLab Research Unit, but all IMT Research Units contribute to the track. The students will have access to the internal Multidisciplinary Lab (equipped for EEG, psychophysics, and psychophysiology measures) and to external MRI facilities (from 1.5T to 7T – to run structural and functional protocols, or multimodal EEG-fMRI acquisitions). Brain stimulation, EEG-TMS protocols and MEG studies are typically run under agreements with partner institutions. Ph.D. students will also have the opportunity to be involved in collaborative research programs with national and international institutions, including the University of Pisa, University of Turin, University of Rome La Sapienza, University of Milan, University of Padua, Center for Mind/Brain Sciences (CIMeC, Rovereto), Arizona State University-

	Tempe, University of Louvain, University of New Mexico- Albuquerque, University of Wisconsin-Madison, Lausanne University Hospital, University of Bristol.
PhD in "Systems Science" **Track in "Computer Science and Systems Engineering"** **(CSSE)**	Current trends in society show an increasing pervasiveness of information and communication technologies into our lives, as witnessed by the growing popularity of mobile, portable, and wearable devices, as well as by the massive shift toward equipping everyday objects with computational and networking capabilities. The integration of computing devices and physical processes leads to the emergence of new cyber-physical systems that exhibit intricate dependencies between parts of inherently different nature. These systems pose very challenging and fundamental questions of both methodological and technological nature. Their successful engineering and operation require a novel, holistic interdisciplinary approach, combining fundamental research at least in the following domains: synthesis and verification of highly concurrent computing systems; machine-learning and numerical optimization for data-driven modeling and control of dynamical systems; modeling and simulation of smart interfaces and materials for advanced sensing and energy harvesting; analysis of massive quantities of data, such as imaging data. The CSSE track provides the doctoral student with a solid interdisciplinary background to analyze cyber-physical systems and provide solutions to a huge variety of complex engineering problems. The program of studies is based on a set of common courses, covering the fundamentals of numerical linear algebra and numerical methods for differential equations, computer programming, cybersecurity, dynamical systems and control, numerical optimization, stochastic processes, and machine learning. These basic courses are followed by a number of advanced courses and research seminars related to the different areas of specialization for the PhD work: - Research in <u>computer science</u> deals with the development of languages, models, algorithms, and verification methods for modern distributed systems. In particular, the research focuses on cutting-edge investigations of adaptive systems, automated verification, cloud computing, cybersecurity, dynamical systems, mobile systems, and performance evaluation. - Research in <u>control systems</u> covers machine learning techniques for the identification of dynamical models from data, and optimization-based control of dynamical systems with an emphasis on real-time embedded optimization algorithms for model predictive control of small-scale/fast, stochastic, distributed, and large-scale dynamical systems. Application areas include industrial problems arising from the automotive, aerospace, smart-grid, and finance domains. - Research in <u>computational mechanics</u> is concerned with the development of innovative computational methods to study advanced problems of solid mechanics, fluid mechanics, and cutting-edge problems involving multiple fields and length scales of high interest in both the academic and industrial sectors. *Input and Output Profiles* Prospective students should preferably have a master-level background in computer science, engineering, physics, mathematics, statistics, or in a related field. The CSSE track prepares researchers and professionals that are able to analyze and propose

	constructive solutions to several real-life problems of industrial, economic, and societal interest, making them qualified to work in high-profile professional roles within universities, research centers, and the private sector. *Research Units contributing to the track* The IMT Research Units contributing to the track are: AXES, DySCO, MUSAM, Networks, SysMA. Ph.D. students also have the opportunity to collaborate with other institutions that work with those Research Units.
PhD in "Systems Science" **Track in "Economics, Networks and Business Analytics"** **(ENBA)**	This track provides participants with solid knowledge of modern analytical methods in economics and management. With its multidisciplinary approach, the track is unique in its deployment of strong integration of concepts, analytical foundations, artificial intelligence, and practical expertise to educate the new generation of economists, scientists, and practitioners with distinctive capabilities in analyzing, interpreting, and managing complex socio-economic systems. Graduates will be trained to become researchers and decision-makers in academia, policy, and industry by integrating knowledge at the boundary of economics, statistical physics, computer and social sciences with the unifying language of mathematics and statistics. Close associations with a selected set of companies and institutions provide the opportunity to analyze relevant problems, motivating new analytical techniques from practical problem solving. Students are involved in the analysis of real-world high-dimensional data in collaboration with companies and institutions. The track relies on distinctive competencies at IMT in economics, management, artificial intelligence, statistical physics, applied mathematics, statistics, computer science, system engineering/operation research and neuroscience. Specific fields of study are economic and financial systems, machine learning, socio-economic networks and network industries; healthcare and pharmaceuticals; systemic risk analysis; systems modeling and optimization; experimental and behavioral economics and finance; complex system analysis in general. *Input and Output Profiles* This track aims at preparing researchers and professionals with deep knowledge of methods and techniques for the analysis of big/high dimensional data in economics, statistics, management and different instances of complex systems. Prospective students should preferably have a master-level background in economics, physics, mathematics, statistics, computer science, engineering or in a related field. The track is designed to prepare candidates for leading positions in companies, research centers, and institutions. Graduates from this track are currently working at leading universities, international institutions, research centers, banks, insurance, and consulting companies, innovative startups and other private companies, with a focus on quantitative assessment and solution of complex problems. *Research Units contributing to the track* The IMT Research Units contributing to the track are: AXES, DySCO, MoMiLab, Networks, SysMA.

	Double-degree agreements have been signed with the Faculty of Economics and Business of KU Leuven (Belgium) and the University of Alicante (Spain).

The IMT School adopts equal opportunity principles in its selection procedures and rejects any type of discrimination based on sex, gender identity, nationality, ethnicity, religious belief, sexual orientation, state of health, and any other status or quality that is not strictly relevant to the call outlined in this document.

Programs official duration: 4 years, with the possibility of defending the PhD thesis from the end of the third year.

The Programs start on November 2nd, 2021.

PhD Program Coordinators:

- PhD Program in "Cognitive and Cultural Systems": Prof. Maria Luisa Catoni;

- PhD Program in "Systems Science": Prof. Rocco De Nicola

Official language of the Programs: English.

Scholarships and research grants: 39 (distributed among tracks as follows)

PhD Program	Track	funded by the IMT School	additional
Cognitive and Cultural Systems	Analysis and Management of Cultural Heritage	9	//
	Cognitive, Computational and Social Neurosciences	9	1 (*)
Systems Science	Computer Science and Systems Engineering	10	//
	Economics, Networks and Business Analytics	9	1 (**)

(*) **Additional scholarship** for the PhD Program in "**Cognitive and Cultural Systems**", track in "**Cognitive, Computational and Social Neurosciences**", funded within the ERC Starting Grant project "Tweaking dreams: non-invasive modulation of the level and content of mental activity during sleep" ("TweakDreams"):

The project aims to progress towards a deeper understanding of the mechanisms that regulate sleep at a local level through the exploitation of known properties of the thalamocortical system. At the core of the proposal is the idea that particular sensory-stimulation protocols may allow to directly modulate sleep intensity in a local, region-specific manner. Such approaches could be used to non-invasively perturbate regional sleep-related brain activity, thus allowing to investigate the causal consequences on sleep mentation, subjective sleep quality and sleep-related functions, including learning and memory. Of note, the same approaches could also find application in counteracting alterations of local sleep regulation in pathological conditions. The PhD student will work on the project, which has the goal to study the effects of distinct stimulation protocols on brain activity and dream imagery during sleep. The project involves the use of combined high-density electroencephalography in combination with sensory stimulation protocols and serial awakening protocols, as well as the use of functional and structural magnetic resonance imaging, actigraphic monitoring, behavioral tests and psychometric questionnaires.

(**) **Additional scholarship** for the PhD Program in "**Systems Science**", track in "**Economics, Networks and Business Analytics**", funded within the training and research activities of the Neuroscience Lab (NS LAB):

Aim of the NS LAB is to exploit, through applied and translational research cases, the most advanced interdisciplinary approaches of cognitive, computational, and social neurosciences in the managerial sciences and strategic field of company organization, and human resources: from the understanding of perceptual, cognitive-affective and decision-making processes, and the characterization of personology and psychometric profiles to the conception and design and validation of new products and services by companies aimed at workers or consumers. NS LAB research oversees the state of the art from the translational point of view of managerial and organization neuroscience, psychophysiology, and advanced analytical approaches, to test possible prototypical applications to evaluate their large-scale development in six business domains: Arts, Aesthetic and Cultural Heritage; Finance and Investments; Health and Safety; Human Resources; Learning and Training; Marketing & Communication. Theoretical and experimental research activities focus attention on the human resource by investigating the dynamics of interaction, identification, and participation in social and economic organizations and characterize its correlation with the neurobiological basis. The approach is multidisciplinary, the experimental activities aim to identify the aspects of the person that underlie the business operating model, to characterize behaviors towards strategic objectives, to define the mechanisms involved in decision-making and learning processes to increase the value and the competitiveness of the companies themselves. Within this educational and experimental context, the doctoral program will focus on specific research topics relating to the following aspects, namely:

- *the dialogue between management, strategies, cognitive sciences, and neurobiology;*
- *the improvement of organizational and business processes based on the characterization of the individual behaviors involved in economic organizations;*
- *the translational nature of managerial neuroscience and organization and the impact on services and organization of business corporations and corporate groups.*

The number of positions may be increased in the event that additional financing is made available after the publication of the Call.

Scholarship gross amount: 15,343.28 Euros/year (see the paragraph entitled "Scholarships").

Additional benefits:

- All PhD students admitted to the PhD program are exempt from paying tuition fees, although they are still responsible for paying the yearly Regional Education Tax (currently €140.00/year);

- All PhD students are offered free meals (lunch and dinner) at the on-campus canteen;

- All scholarship recipients are provided with free accommodation in shared double rooms within the campus residential facilities.

REQUIREMENTS

Applications are open to candidates who meet the following requirements:

1. **Degree**:
   - "Laurea Magistrale" or "Specialistica" (according to DM no. 509, of November 3, 1999), or a four- or five-year degree (according to the previous rules of the Italian higher education system) obtained in Italy;
   - Foreign degrees with a minimum duration equivalent to 4 years (full time). The 4-year duration should be considered a minimum but not sufficient requirement: the Selection Committees will assess the eligibility of degrees.

For the selection procedure, candidates are required to upload the documents indicated in Table 2 - Attachments to the application.

Applicants who obtain their degree by no later than **October 31st, 2021,** can also apply. These candidates will be admitted to the selection procedure "with reserve" and must provide their degree certificate by the date of enrollment, or they will be excluded from the program. These documents may be sent sooner via email (phdapplications@imtlucca.it) or fax (+39 0583 4326565).

2. **Knowledge of the English language**: Applicants are required to indicate their level of English.

APPLICATION

The **application form** must be **mandatorily** filled out in **English** through the School's online procedure **by June 30th, 2021, at 12:00 pm (CEST)**.

Applicants have to upload the **documents** in **PDF**. The **maximum size is 30MB** for every single attachment.

The Selection Committee will accept **attachments** in **Italian or English only** (unless otherwise specified in the table below).

Table 1: Information		
Track	compulsory	It is possible to apply for more than one track, submitting a new application for each track selected. Applicants are not allowed to register more than once with different email addresses and/or different names or to submit more than one application for the same track (in this case, only the last one will be considered valid).
Research Field(s)	compulsory	Candidates applying to the **CSSE** track are required to express their interest in one or more research fields. Each of the offered fields is the core competence of a distinct Research Unit at IMT School: - *Automation* – Research Unit **DYSCO** (Dynamical Systems, Control, and Optimization) - *Computational Mechanics* – Research Unit **MUSAM** (Multi-scale Analysis of Materials) - *Computer Science* – Research Unit **SYSMA** (Systems Modelling and Analysis) - *Statistical Physics and Complexity Theory* – Research Unit **NETWORKS** (Theory and Applications of Complex Networks)

		The choice is **not binding**: admitted students will be assigned a *Research Area* when being assigned an Advisor (according to the IMT School PhD Regulations).
Personal information	compulsory	In this section, applicants must enter their personal data (name, address, contact details, etc.).
English Language Level	compulsory	Applicants must indicate their level of English.
Additional information/Interview	compulsory	Applicants have to indicate the modality for the interview (IMT School campus, videoconference, or similar, or by telephone at an Italian embassy/consulate).
Additional information/Disability	optional	Applicants should indicate if they need assistance to participate in the selection procedure.
Additional information/How did you first find out about IMT?	compulsory	Applicants are required to indicate how they found out about the IMT School.
Education	compulsory	Applicants are required to indicate their university degrees (whose duration must be equivalent to at least 4 years of university studies), the average exam mark, and final grade (if any) for each degree obtained.
Additional qualifications	optional	In this section, applicants may list any other qualifications considered relevant in relation to their application.
The "TweakDream" Project	compulsory	Candidates applying to the **CCSN** track are required to express their interest in collaborating with the ERC Starting Grant project "Tweaking dreams: non-invasive modulation of the level and content of mental activity during sleep" ("TweakDreams")".
The Neuroscience Lab Initiative	compulsory	Candidates applying to the **ENBA** track are required to express their interest in the training and research activities of the Neuroscience Lab (NS LAB).
Publications	optional	Applicants can list their own published articles, books, or any material that can be considered relevant for the PhD and research activity.
References	compulsory	Applicants are required to provide the **names and contact information** of **two referees**. The **referees** who are invited to submit a **reference letter in English**, through the IMT School's online application system, by **July 7th, 2021, at 12:00 pm (CEST)** will receive an automatic notification from the School's application system.

		Applicants will receive an automatic notification when a letter is submitted, but they may not access any reference provided.

Table 2: Attachments			
1	**Copy of National Identity Card or Passport**	compulsory	Applicants have to upload a copy of a valid identity document: • <u>For Italian and EU citizens</u>: Valid National Identity card or passport • <u>Non-EU applicants</u>: National Identity card or Passport (passport is highly recommended). <u>The copy has to be **signed by the candidate, indicating the date and place of the signature**</u>. In particular, the document has to contain the applicant's photograph, personal data, and document number, place and date of issue. If any of this information is missing, the document will not be accepted. In case the document is not in English or Italian, a translation into English or Italian should also be uploaded (an official/legal translation is <u>not</u> required). In the event that the copy of the document is unreadable, the Selection Committee may request a new submission.
2	**Curriculum vitae et studiorum/Resume**	compulsory	Applicants have to upload their curriculum vitae et studiorum/resume **in Italian or English (English is highly recommended)**, indicating their university degrees, work and research experience, and publications (if any).
3	**Education**	compulsory	Candidates are required to upload one of the following documents **in Italian or English**: • for **degrees obtained in Italy** and/or in **France**, **Ireland**, **Belgium**, **Denmark** (Bruxelles Convention of May 25, 1987) and **Germany** (Italian-German Convention, ratified by the Law no. 176 of 1973): a self-declaration stating the possession of a degree, conferral date, issuing University, and final grade; • for **degrees obtained in all other EU and non-EU countries**: an official certificate indicating the possession of a degree, conferral date, issuing University, and final grade.

4	**Academic transcript/Diploma supplement**	compulsory	For each degree, the applicant has to attach one of the documents listed below **in Italian or English (English is highly recommended)**: • **Academic transcript**: an official document detailing the course, classes taken or subjects studied and results, completion date, graduation date; or, alternatively, • **Diploma Supplement**: document produced by the University accompanying the diploma, providing a standardized description of the nature, level, context, content, and status of the studies completed by the applicant (https://ec.europa.eu/education/diploma-supplement_en).
5	**Research Statement**	compulsory	The IMT School's research program is characterized by the complementarity of methodologies from areas such as economics, cognitive and social neuroscience, visual studies, philosophy, archeology, art history, cultural heritage law, analysis, and management of cultural heritage, computer science, and engineering. The descriptions of some examples of projects and research themes active at the School are available at https://www.imtlucca.it/en/didattica/programmi-dottorato/futuri-allievi/research-topics. The IMT School is nonetheless interested in accepting research projects and themes proposed by candidates other than those described on the website and, in general, in identifying with the students the research themes that best suit their skills and interests. To best evaluate each candidate's aptitude towards their inclusion within the School's PhD Programs, all candidates must upload a document (**maximum 10,000 characters, spaces included**) **mandatorily in English**, as specified below for each track: • for **AMCH**: the research statement consists of a research project proposal to be used exclusively to evaluate the application. The candidates, once admitted to the Program, will define their research project with their assigned Advisor; • for **CCSN**, **CSSE,** and **ENBA**: the research statement must include a description of the candidate's competences and experiences within the relevant scientific or academic field, future projects, and an illustration of the candidate's motivation for pursuing study at the IMT School.

If the application lacks a piece of information or an attachment referred to as "compulsory", applicants can be conditionally admitted to the selection procedure and their application will be considered valid only if they produce the required documents by the day scheduled for the interview.

The correct conclusion of the online application procedure is **confirmed by an automatic email** sent to the email address indicated by each applicant while registering for the procedure; the message only confirms the receipt of the application. The School will not verify the validity and completeness of applications before the call closes.

After the submission, no changes are allowed to the data inserted.

SELECTION COMMITTEES

The Selection Committees are nominated by decree by the Director of the IMT School in accordance with the School regulations.

For the additional scholarships (described in art. 1), the Selection Committees include an additional expert in the disciplines relating to the scientific areas to which the funding program refers.

The Selection Committees may be assisted by Preliminary Evaluation Committees, which are also nominated by the Director, and can be composed by IMT School Professors, Assistant Professors, and Post-Doctoral Fellows, or experts from relevant fields.

EVALUATION CRITERIA AND SELECTION PROCEDURE

Evaluation criteria

The Selection Committees will evaluate candidates'

- academic background, knowledge, skills, and scientific potential;
- general aptitude to research and potential to collaborate in the specific research activities of the selected Track in the application form;
- interdisciplinarity, knowledge, and skills with reference to the multidisciplinarity of the IMT School PhD Programs;
- pertinence to a different track with respect to the one chosen in the application form.

Assessment of qualifications

The first phase of the selection procedure is the assessment of qualifications. This assessment is carried out in relation to the specifics of the PhD Programs and is specifically to determine who is admitted to the interview.

In the assessment of qualifications phase, the evaluation of the candidates is carried out by the Committees defined in the previous paragraph "Selection Committees", based on the candidates' application form and uploaded documents and the reference letters provided by referees.

On the basis of the assessment of qualifications, the Selection Committees will draw up a shortlist of candidates admitted to the interview in alphabetical order.

The shortlist of applicants admitted to the interview will be published on the School's website and Online Notice Board ("*Albo Online*") by **July 30th, 2021**. This is the only official communication of the preliminary results to all applicants.

Interview

Candidates admitted to the interview must confirm their participation by email to phdapplications@imtlucca.it within 2 days of the publication of the shortlist, confirming their preference to have the interview conducted in one of the modalities provided for in the paragraph entitled "Application" of this call.

During the comprehensive interview, which will take place between **September 1st-10th, 2021**, the Selection Committees will assess the candidates' knowledge and skills with reference to the specific characteristics of the PhD Program.

The Selection Committees will assess all interviews assigning a score (up to 100 points): applicants scoring at least 70 out of 100 will be eligible for the Program and will, therefore, be listed in the final ranking.

Final ranking

At the end of the interviews, each Selection Committee will draft the final ranking of the eligible candidates for each track according to their scores obtained in the interview.

If multiple candidates get the same score, preference will be given to the youngest.

In the event of the withdrawal or exclusion of a candidate, he/she shall be replaced by the next suitable candidate according to the ranking.

In the event the ranking of a track does not list enough eligible candidates to assign all available positions, the remaining scholarships will be assigned according to the ranking of other eligible candidates of the other PhD Program's track.

For the additional scholarships, the Selection Committees will draft specific rankings of the eligible candidates according to their scores obtained in the interview; in the event of the withdrawal or exclusion of a candidate, he/she shall be replaced by the next suitable candidate according to the specific ranking.

All rankings will be published on the School's website and Online Notice Board ("*Albo Online*").

ENROLLMENT

The enrollment request will be considered valid only if all required documents are enclosed (see Attachment A).

Once admitted to the PhD Program, candidates wishing to enroll must submit the completed enrollment form to the IMT School **no later than 5 days from the publication of the results** on the School's Online Notice Board ("*Albo Online*") and website, using one of the following modalities:

- in person or by post to:

  IMT School for Advanced Studies Lucca
  PhD and Higher Education Office
  Piazza S. Ponziano, 6
  55100 Lucca – Italy

- by fax to +39 0583 4326565

- by certified email to imtlucca@postecert.it

Failure to submit the enrollment request by the deadline and through the above-mentioned modalities will result in an automatic withdrawal of the candidate from the program.

The enrollment request is valid only if all the requested documents have been enclosed.

In the event that any of the documents submitted during the application procedure do not correspond to those submitted during enrollment due to a deliberate false declaration, the applicant will automatically lose his/her right to enroll in the program.

Enrollment is effective on the first day of official classes. Unauthorized absences may nullify the enrollment procedure.

SCHOLARSHIPS

The scholarship amount is 15,343.28 euros/year and shall be disbursed in monthly instalments.

For any research or training activities at universities or research centers abroad, the amount of the scholarship is increased by 50% for the first 9 months.

Scholarships are subject to the payment of social security contributions (INPS) managed separately pursuant to Article 2, paragraph 26 of Law no. 335 of 8th August 1995, as amended, with two-thirds paid by the Administration and one-third by the scholarship recipient.

Admitted candidates who have already benefited from a PhD scholarship in Italy cannot be assigned another one.

The scholarship has a maximum duration of four years and is subject to annual confirmation: according to articles 15 and 16 of the IMT School PhD Regulations, students must have completed all the activities provided for in each academic year.

In the event a student withdraws or is excluded within 45 days from the beginning of the Program, he/she is not entitled to the scholarship. The scholarship will be awarded to the next eligible candidate according to the final ranking. For this reason, the first scholarship payment will be made only after the successful completion of the first 45 days of the program.

If a student registers after 45 days from the beginning of the Program, he/she is entitled to the scholarship starting from the actual date of enrollment.

FACILITIES

Residential facilities: accommodation

All PhD students who are granted a scholarship have free accommodation in shared double rooms with private bathrooms, priority being given to the on-campus residential facilities, for the entire official duration of the Program (4 years), except for the periods spent off campus for study and/or research.

The School can revoke the right to accommodation if it is rarely or not used.

Residential facilities: canteen

All PhD students are offered free meals (lunch and dinner) at the School canteen located on campus for the entire official duration of the Program (4 years). Lunch and dinner are served each day, Monday through Sunday, for the entire academic year, except for the closing periods.

Other facilities

All PhD students have access to library facilities and can benefit from the services of the IT support staff for all technical requests related to study and research until the thesis defense.

The School subscribes to an insurance policy for all PhD students. It provides coverage against accidents and injuries incurred by students in Lucca or abroad while performing academic activities. The IMT School also provides students with health insurance policies for research trips outside of Europe (students are automatically covered within Europe).

All foreign PhD students are given the possibility to take an Italian language and culture course to receive an A2 language certificate (as defined by the Common European Framework of Reference for Languages), useful for obtaining credits in accordance with Italian Immigration law.

TREATMENT OF PERSONAL DATA

The IMT School will use the personal data provided by applicants solely for selection procedures and institutional aims, in accordance with the provisions of the European and Italian legislation in force (EU Regulation 2016/679 and Italian D. Lgs. 196/03 - *Italian Privacy Code*, as modified by the D. Lgs. 101/2018) and the relevant School Regulations.

Applicants are granted all the rights established by art. 15, sections 2, 3, and 4 of Chapter III, and art. 77 of the EU Regulation 2016/679.

For any further information regarding the call and the selection procedure, please contact the PhD and Higher Education Office by email at phdapplications@imtlucca.it or by phone at +39 0583 4326530.

Further information regarding the PhD Programs and the IMT School is available at www.imtlucca.it.

FINAL PROVISIONS

Having adopted all the necessary measures to carry out the activities planned for the 2019/20 academic year, during the health emergency linked to COVID-19, in the event that the aforementioned emergency continues, the IMT School will provide the activities and services planned for the 2020/21 academic year in ways that allow new PhD students to enroll, attend education activities, and undertake their doctoral studies.

Relevant laws and the IMT School PhD Regulations shall be applied to any issue or item not covered by the present call for applications.