



**NOTICE OF SELECTION PROCEDURE FOR THE ADMISSION TO PhD PROGRAMME IN
"BLOCKCHAIN E DISTRIBUTED LEDGER TECHNOLOGY"
(CYCLE 38, Academic Year 2022/2023)**

The Rector

- Having regard to** Presidential Decree No. 382 of 11 July 1980, "Reorganisation of university teaching, related academic category, as well as organisational and teaching experimentation";
- Having regard to** Law No. 210 of 03 July 1998, "Rules for the recruitment of researchers and tenured university professors", in particular Art. 4 "PhD Programmes";
- Having regard to** Ministerial Decree No. 224 of 30 April 1999, "Regulations on the matter of PhD programmes";
- Having regard to** Law No. 240 of 30 December 2010 "Rules on the organisation of universities, academic staff, and their recruitment, as well as delegation to the Government to incentivise the quality and efficiency of the university system", in particular the Art. 19 "Provisions on PhD Programmes";
- Having regard to** Decree of the Minister of Education, University, and Research No. 45 of 08 February 2013 "Regulations laying down procedures for the accreditation of PhD programmes and locations, and criteria for the implementation of PhD programmes by accredited bodies";
- Having regard to** Decree of the Minister of Education, University, and Research No. 226 of 14 December 2021 "Regulations laying down procedures for the accreditation of PhD programmes and locations, and criteria for the implementation of PhD programmes by accredited bodies";
- Having regard to** Decree of the Minister of Education, University and Research No. 247 of 23 February 2022 "Increase in PhD scholarships";
- Having regard to** Decree of the Minister of Education, University, and Research No. 301 of 22 March 2022 laying down New guidelines for the accreditation of PhD programmes;
- Having regard to** Decree of the Minister of Education, University, and Research No. 351 of 09 April 2022 concerning the allotment of 2,500 three-year PhD scholarships for the attendance of PhD programmes, in specifically dedicated and declined programs (PNRR [National Plan for Recovery and Resilience] funding);

- Having regard to** Decree of the Minister of Education, University, and Research No. 352 of 09 April 2022 concerning the allotment of 5,000 innovative PhD scholarships that respond to the innovation needs of companies and promote the hiring of researchers by companies (PNRR funding);
- Having regard to** the University Statute, issued with Rector's Decree No. 194 of 30 July 2012, and published in the Official Gazette of the Italian Republic - General Series - Part One, No. 200 of 28 August 2012, which entered into force on 27 September 2012; amended by Rector's Decree No. 179 of 18 September 2015, published in the Official Gazette of the Italian Republic No. 236 of 10 October 2015, and entered into force on 09 November 2015;
- Having regard to** the adoption of the European Charter for Researchers and the Code of Conduct for their recruitment and the adoption of the human resources strategy;
- Having regard to** the Regulations of the School of Advanced Studies, issued with Rector's Decree No. 168/2022;
- Having regard to** the Regulations on PhD Programmes, issued with Rector's Decree No. 169/2022;
- Having regard to** the University Guidelines and the UNICAM OTM-R (Open, Transparent and Merit-based Recruitment of Researchers) Policy, approved by the Academic Senate in their meeting No. 28 of 31 May 2016;

DECREES

Art. 1 – PhD PROGRAMMES

The selection procedure, unique for EU and non-EU citizens, based on qualifications and examinations, for admission to the PhD programme in "BLOCKCHAIN E DISTRIBUTED LEDGER TECHNOLOGY", 38th cycle. Academic Year 2022-2023, with headquarters at the *School of Advanced Studies* - International Doctoral School of the University of Camerino (henceforth referred to as SAS) is hereby launched.

The Coordinator of the national PhD programme is Prof. Flavio Corradini flavio.corradini@unicam.it

National PhD Programme in "Blockchain e Distributed Ledger Technology" usually lasts three years, and aims to help educate and train a new generation of researchers, professionals, and innovators capable of providing adequate answers to the scientific and innovative challenges emerging from the private sector and public administration bodies, fully capable of guiding the current and future evolution of these technologies and infrastructures, and giving methodologically adequate responses to digital and green strategies and strategic plans, and agendas of our country and Europe. To this end, a PhD programme is offered on Blockchain and Distributed Ledger Technology that is inherently interdisciplinary and multidisciplinary. PhD students will be immersed in scientifically stimulating environments where, in addition to curricular teaching and research, they will have the opportunity to deepen aspects relating to the European Framework for Research Careers and to transversal training and the acquisition of "soft skills" much desired by the European Training and Research Area.

1.1 The Programme is divided into the following **8 curricula**:

METHODOLOGY, TECHNOLOGY, AND INSTRUMENTS

Methodology plays an increasingly important role in the management and definition of Blockchain and Distributed Ledger Technology. A key point is the definition of new and fault-tolerant distributed consensus mechanisms, cryptographic primitives, and distributed protocols. In particular, the consensus mechanisms guarantee the integrity of the information stored in the blockchains, and improve the efficiency of the system and the defence against attacks. Other aspects of the research cover, but are not limited to, Blockchain-oriented software architectures and engineering. Notations for the modelling and analysis of smart contracts can support progress in Blockchain-oriented software, and break down the technological barriers for non-expert users. Optimisation aspects will also be taken into consideration to ensure the efficiency of smart contract execution. Formal specifications and advanced automated verification techniques, and new approaches for testing smart contracts and auditing blockchain transactions, need to be defined. Blockchain technologies are based on the adoption of different infrastructures, such as Ethereum, IOTA, Hyperledger ecosystem, etc. In this regard, the recent challenges for supporting security, scalability, reliability, interoperability, and performance issues in Blockchain and smart contracts across multiple Blockchain platforms will be addressed. Certainly of interest are also the tools, including open source software, which allow new scenarios such as the sale of tokens. Blockchain-related issues in the metaverse will also be addressed.

KEY WORDS:

- Foundational aspects of Blockchain and Distributed Ledger Technology
- Distributed ledgers
- Distributed Computing
- Metamodeling and Management
- Distributed consensus mechanisms, cryptographic primitives, and distributed protocols
- Smart Contracts
- Modelling, analysis, and verification
- Model-driven software development
- Dynamic Networks
- Metaverse

SOCIAL SYSTEMS AND SMART SOCIETIES

The Blockchain is increasingly becoming a tool to increase transparency and traceability of data in smart societies and social systems. As a decentralised infrastructure, it can manage emerging networks to offer transparent services to the citizen, sharing of public data, support for decentralised identities. Web3 claims a vision of the Internet that can interrupt the intermediation of Big tech by completely decentralising the web. This new web model largely revolves around Blockchain technology, which allows for the integration of cryptocurrencies and tokens into many social media platforms. This gives the possibility both to reward users for their social actions and to define Non Fungible Tokens, digital resources that represent real world objects such as art, music, games, videos thus creating a new form of decentralised finance, Social Finance. Blockchain technology defines a new, more user-centric, secure, uncensored, and compensatory model for users, able to offer them quality and reliable content. The curriculum will develop theoretical and applicative skills:

a) Theory: When new models of social interaction are considered, new and stimulating theoretical questions emerge, and, in order to understand the interaction between social and

economic strata at different scales, the support not only of technicians, but also of sociologists, lawyers, economists is required . Furthermore, the enormous amount of transactions that a social system can generate requires new solutions to improve the scalability of the Blockchain (off-chain channels, sidechain, etc.).

b) Applications: New scenarios for the application of Blockchains are emerging in the context of social and smart communities. Among these, of greatest interest are the integration of rewards and tokens in social platforms, the integration of the Blockchain with metaverses, the development of Blockchain-based platforms for intelligent communities, and for the support of user-centric digital identity.

KEY WORDS:

- Smart Cities e Smart Communities
- Transparency and traceability
- Services to Citizens, Companies and Public Administrations.
- Tokenization
- Cybersecurity
- Inter-ledger technologies
- Self-Sovereign Identity
- Blockchain oracles
- Non Fungible Tokens (NFT) and Web3
- Social Interactions

HEALTH AND WELLBEING

The curriculum aims to progress in the study of Blockchain technologies in the creation of innovative solutions to improve trust between patients and healthcare facilities, as well as in the management of data sharing between the latter. Since these are sensitive data, the sharing of health-related data requires compliance with numerous rules and policies that can be defined at European, national, or even organisational level. In this context, Blockchain and Distributed Ledger can be a useful reference in providing reliable environments to monitor compliance with these rules and policies, without requiring the construction of a complex and often centralised authority in charge of verifying compliance. In this curriculum, the adoption of these technologies will be studied considering the different types and formats of data involved in clinical processes and related to research trials. In fact, the domain includes "stream data", "data-at-rest", images, genomic data, unstructured data, and the approaches to decide between "on-chain / off-chain" data management to balance between the need for trust, and the performance of the system cannot be defined in general but depends on the type of data considered. Furthermore, the potential adoption of Blockchain and Distributed Ledger Technology will consider the connection with consolidated protocols (e.g., HL7 in its FHIR and DICOM version for diagnostic images) and common systems (e.g., PACS for image management and CRF for setting up experiments). In particular, the role of Blockchains in improving the management of genomic data that entail the need to manage important artifacts with significant dimensions will be studied. Finally, in conjunction with the fundamental role of the ethics committee that must decide on the possibility of managing personal data, smart contracts can be studied to implement policies in a more agile way.

KEY WORDS:

- Healthcare services

- Hospital data and automated management
- Healthcare data sharing
- Healthcare data protection
- Trust-based health environments
- Distributed Ledger Technology
- Electronic Health Records
- Privacy preserving data processing
- Ethics and Ethics Committee

ECONOMY AND FINANCE

This curriculum explores blockchain and distributed ledger technology in economics and finance with a multidisciplinary approach. As a noteworthy application, this path will consider socio-economic, legal, organisational, and technological aspects of cryptocurrencies, central bank digital currencies (CBDCs), and non-fungible tokens (NFTs). These include: User trust and reputation mechanisms underlying the move from institutional and centralised currencies to decentralised digital currencies; the emergence of central bank digital currencies; analysis of transactions for the detection of anomalies, fraud, suspicious behaviour (cyber-crime) and communities; business models of token-based economies; anonymisation and de-anonymisation techniques; the interaction between cryptocurrency/NFT and social media/virtual worlds; exploring the real consequences of virtual money from the metaverse; the performance and reliability of blockchain algorithms and implementations; the environmental footprint of digital ledgers; combining game theory, economics and cryptography to understand the incentive models underlying distributed blockchain protocols. The path will also cover platform economies, smart contracts, and their communication/interaction protocols. Candidates will have the opportunity to explore the following: Languages for the specification of smart contracts; techniques for the analysis and verification of the correctness and compliance of smart contracts; legal and regulatory aspects; game theory applied to human-algorithm interaction; psychology of money. Candidates on this path can also study blockchain in supply chain management for digitalisation and certification of commercial documents and NFTs for intellectual property rights.

KEY WORDS:

- Central Bank Digital Currency
- Credit market and financial services
- Illegal markets detection
- Internet of Money
- Valuation services and financial advising
- Business models for DLTs-based financial players
- The economics of DLTs-based financial markets
- Banking & Finance
- Digital asset/Crypto-assets
- Entrepreneurial finance

LAW AND GOVERNANCE

The curriculum investigates three main directions:

- Theoretical aspects. The Blockchain implies a new form of social organisation, a decision-making method that changes the relationships between institutions, authorities, and citizens. This raises relevant questions regarding the legitimacy of the activities carried out in the Blockchain, and the validity of the smart contracts applied above all in some sectors (e.g., legislation, justice, administration). The autonomy of the decision maker is fundamental to preserve the normativity and the self-execution of smart contracts underlines some theoretical aspects and pillars of our democracy. Human control at every stage is an important research investigation topic.

- Regulation. It is necessary to define stable regulation in its legal foundations (e.g., theory of law) and in specific areas (e.g. civil law, labour law, etc.) in support of the emerging market and the introduction into society of Blockchain, smart contracts, ICO, NFT. A view of international law (e.g., UNCITRAL, UNIDROIT, HCCH) is needed to avoid fragmentation. The European Blockchain Service Infrastructure is an opportunity to regulate certain principles including digital identity at a supranational level.

- Application aspects. The course aims to research how to apply the constellation of Blockchain and Distributed Ledger Technology to the legal domain (e.g., Anti-money laundering, Anticorruption, etc.), and to other domains with the aim of ensuring compliance with the legal framework. Some solutions include legal reasoning and arguments for verifying compliance before self-execution. Several principles are fundamental: law-by-design, transparency, accountability, human rights, privacy, accountability, human-centred design, explicability. All these themes require innovative specific interdisciplinary research.

KEY WORDS:

- Smart Legal Contract
- Intelligible Contract
- Self-Sovereign Identity
- Legal reasoning
- Regulation
- Blockchain forensic
- Anti-money laundering, anti-corruption
- Private standards
- Compliance
- Business models

INDUSTRY 4.0

Industry 4.0 includes a new business vision that stimulates innovation and adds value to the business through the integration of new pervasive ICT technologies (IoT, Cloud and Edge Computing, AI and Machine / Deep learning) in services, products, and production plants, in order to provide the industrial production system with greater automation and responsiveness, efficiency, automatic optimisation of process improvements, etc. The curriculum focuses on Blockchain and Distributed Ledger Technology research for Industry 4.0 applications, and covers both application and theoretical aspects. Research issues concern, for example, the identity and accountability of digital users between business units and consortia, scalability, interoperability, and trust in Blockchain systems for Industrial IoT, transparency, information sharing, and privacy control in the next generation of Blockchain technology for smart applications. The fields of application are innumerable and relevant. They can relate to the "supply chain" management process and therefore relate to the countless links along the supply chain for the creation and distribution of goods, the multitude of payments and invoices, the entire flow of materials and information. With the

same complexity, quality control processes, waste reduction, trade finance can benefit from Blockchain and Distributed Ledger Technology. Knowledge and skills are needed to guide the Blockchain integration process in the innovative scenarios of Industry 4.0. To this end, the direct involvement of organisations that play a leading role in this issue is envisaged.

KEY WORDS:

- Technology integration in Industry
- Internet of Things
- Machine learning
- Consensus protocol
- Distributed ledger security
- Blockchain security
- Accountability
- Services, products, and supply chain
- Business organisation

CLIMATE, ENERGY, AND MOBILITY

The curriculum focuses on Blockchain and Distributed Ledger Technology to promote an open, strategic, and distributed approach in energy value chains. Many climate programs have been established over the years. However, the intrinsic multilateral and international approach entails many difficulties in linking political commitment to technical involvement, and to contributing, for example, to reducing greenhouse gas emissions. First, the curriculum will study Blockchain's contribution to transparency, traceability, and trust in environment-related programs. Creating more resilient, inclusive, and democratic European energy systems will prepare to adequately respond to threats and disasters. Distributed energy resources (DER) require the collection and distributed management of data (smart meters, production plans, prosumers).

This curriculum will study distributed methodologies to strengthen the digital-enabled, climate-neutral, and sustainable circular economy through the technical management of virtual power plants, transmission and distribution networks, and energy communities. The attestation and validation of energy production methodologies will distinguish the cases of green and environmentally friendly production from the traditional ones, in particular for blue, green, and grey hydrogen. The use of the Blockchain will be applied to revolutionary business models and programs in the energy and energy mobility sector (Demand-Response, Vehicle to Grid, energy communities, self-consumption certification, etc.). In addition, the monitoring and traceability of batteries for electric mobility, including the management of the logic for monitoring their health status, allows them to be used in second-life applications. The challenges described above will be addressed with innovative theoretical approaches to ensure privacy and security.

KEY WORDS:

- Energy value chains
- Environment
- Disaster monitoring and management
- Resilient and inclusive energy systems
- Environmental data management
- Circular Economy

- Energy communities
- Sustainable mobility
- Battery traceability
- Smart Contracts

AGRICULTURE AND AGRI-FOOD SECTOR

The curriculum is focused on studying how the current and next generation Blockchain can support greater traceability and transparency in food supply chains and support the implementation of green and sustainable schemes. The topic of the study will cover both the applicative and the theoretical aspects. On the application side, the study will contribute to the ambition to develop sustainable, productive, and climate-neutral, biodiversity-friendly, and resilient agricultural systems, providing consumers with affordable, safe, healthy, and sustainable food, while minimising the pressure on ecosystems, improving public health and generating fair economic returns for farmers through the exploration and development potential of the use of Blockchain in the agri-food sector. From the theoretical point of view, all aspects of traceability, integrity, authentication, identification (which also cover the issues of Self Sovereign Identity) will be taken into consideration using the Blockchain. Its characteristics will be exploited by applying them in the agri-food sector, with particular attention to the issues of greenery and sustainability.

KEY WORDS:

- Food supply
- Smart agriculture
- Sustainable cultivation
- Traceability
- Transparency
- Sustainable agricultural systems
- Information asymmetry
- Biodiversity and resilience
- Conscious consumption

1.2 Universities and affiliated research institutions

- 1) University of Camerino
- 2) IMT School for Advanced Studies
- 3) Gran Sasso Science Institute
- 4) "Aldo Moro" University of Bari
- 5) University of Bologna
- 6) University of Calabria
- 7) University of Cagliari
- 8) "G. D'Annunzio" University, Chieti Pescara
- 9) "Sacro Cuore" Catholic University
- 10) University of Florence
- 11) University of Aquila
- 12) University of Milan – Bicocca
- 13) University of Macerata
- 14) University of Padua

- 15) University of Palermo
- 16) University of Milan
- 17) University of Pisa
- 18) Polytechnic University of the Marche Region
- 19) "Tor Vergata" University of Rome
- 20) University of Turin
- 21) "Carlo Bo" University of Urbino
- 22) "Ca' Foscari" University of Venice

Pursuant to Ministerial Decree No. 226/2021, PhD Programmes can be activated upon accreditation by the Ministry of Education, University, and Research.

PhD Programmes of the 38th cycle will start with the new academic year, and in any case no later than 31 December 2022. The programmes will end with the writing of an original thesis, preferably in English language. In addition to the activities directly aimed at the preparation of the thesis, PhD students are required to participate in transversal and curricular training activities offered in English language. Mobility experiences outside the host university in Italy and abroad are also envisaged.

Art. 2 – SCHOLARSHIP

PhD scholarships have an annual duration, and are renewed for each year of the programme, provided that the PhD student has completed all the activities planned for the previous year, and that they have been admitted to the following year by the Academic Board.

Candidates successfully placed on the ranking list will be awarded a scholarship, which can be maintained for the three-year period, subject to annual verification of the results obtained.

The funding of at least 30 PhD scholarships is guaranteed, which in the event of additional financial resources can be increased up to a maximum of 35.

Some PhD scholarships are funded under programmes, projects, or agreements, including those with external bodies. They provide for the conduct of research activities on specific topics, which bind the scholarship holders to carry out such research activity.

Detailed information on the research topics covered by the PhD studies is published on the SAS website, at <https://isas.unicam.it/dni/phd-blockchain-dlt/how-apply>

Scholarships will be awarded according to the selection procedures set out in this Notice.

Scholarships shall be confirmed annually by the Academic Board, after verification of the activities carried out by the PhD student in the previous year.

On the basis of the merit ranking lists, PhD student positions without scholarship may be open, up to one place out of three with scholarship; candidates in this position must indicate whether they can obtain financial support from public and / or private entities other than those making up the Consortium.

Activities of PhD students not receiving scholarships shall also be subject to verification by the Academic Board.

Art. 3 – REQUIREMENTS FOR ADMISSION TO THE SELECTION PROCEDURE

Italian and foreign citizens in possession of a Specialisation/Master's degree, or a similar university qualification recognised as suitable by the academic authorities, can apply for

participation in the selection procedure for admission to the PhD Research Programmes, without discrimination based on gender, age, religion, nationality, sexual orientation, political opinions, socio-economic conditions, or disabilities. If the qualification has not already been recognised, the Board of the SAS will decide on and declare its equivalence, for the sole purpose of admission to the PhD Programme, after having carried out the appropriate controls.

Candidates who will achieve the qualification referred to in the previous paragraph by the date of enrolment in the PhD programme may also apply for admission. In such a case, admission shall be allowed "under reserve", and the candidate shall be required to submit, under penalty of forfeiture, a declaration in lieu of certification, pursuant to Art. 47 of Presidential Decree No. 445/00, by 30 November 2022.

The payment of any fee for admission to the selection procedure is not foreseen.

Art. 4 – APPLICATION FOR PARTICIPATION IN THE SELECTION PROCEDURE

The application for participation in the selection procedure must be filled out **exclusively** (under penalty of exclusion from the selection procedure / admission) on the format accessible from the website <https://vele.unicam.it/CallforApplication/?st=2> by Friday **26 August 2022**.

Candidates are invited to submit their application for participation in the selection procedure online, well in advance of the deadline indicated in this Notice.

It is the candidates' responsibility to verify that the IT procedure has been completed correctly.

No complaints will be accepted for any computer system malfunctions due to overloads encountered by candidates near the deadline.

The university administration declines all responsibility for failure to receive documentation resulting from third party liability or technical causes.

As indicated in the application form, the candidate must provide at least 3 names of professors / researchers (*presenters*), who will receive a request by e-mail to provide a cover letter, drawn up according to a predetermined template indicated in that same e-mail. The letter of presentation must be received within 7 days following the deadline of this Notice.

It is the candidate's responsibility to ensure that at least 1 teacher / researcher has carried out the procedure for uploading the cover letter. Although it is an element for the evaluation of the candidate, failure to present this letter shall not be a cause of exclusion from the selection procedure / admission.

Applications received after the deadline and with methods other than those indicated above will not be considered valid.

Candidates must pay particular attention to the compilation of the research programme hypothesis written in English, since it will be one of the main elements for the evaluation of the aptitude for research.

Candidates' attention is also drawn to the need to indicate, as a reference for their scientific interests, the expression of interest in the research topics associated with the grants, from a minimum of 1 up to a maximum of 3 from among those listed on the website. <https://isas.unicam.it/dni/phd-tan/how-apply> (Note: the expression of interest and the order of preference expressed are binding for the award of scholarships as clarified in the following art. 5).

A "**Letter of Purpose**" (max 500 words, in English language) is also required, and must contain the motivations of the candidate to carry out the proposed research project, which refers

to the first research topic selected, as well as the interest in the other research topics selected, by referring to the skills and experiences acquired.

Art. 5 – CRITERIA FOR THE EVALUATION OF CANDIDATES

Evaluation of suitability of candidates for the admission to the PhD Programme shall be carried out by a Selection Committee appointed by the Rector of the coordinating headquarters (University of Camerino), by means of a specific Decree; and its composition shall be published on the website. The Committee is divided In Sub-Committees, made up of curriculum teachers. Each Sub-Committee is responsible for evaluating candidates for their respective curriculum. Such Sub-Committees, where applicable, may be integrated by experienced researchers also external to the Consortium, and are responsible for the preparation of a short list of suitable candidates.

When preparing the short list of suitable candidates, the Selection Committee shall take into account the CV of the candidate, with particular reference to the graduation grade, other qualifications, scientific publications and presentations at congresses, prizes, and awards. The presentation letters from the *presenters* and the Letter of Purpose will also be evaluated.

The project proposal, referred to in the previous article, will also be an integral part of the application, and therefore subject to evaluation. The project proposal will be subjected to analysis for the detection of any infringements attributable to plagiarism; if the analysis reveals this type of infringement, the responsible candidate shall be excluded from the selection procedure. The project proposal is to be submitted for the sole purpose of facilitating evaluation by the Committee, and is not binding for the purposes of the PhD student's research path.

On the basis of the documentation produced by the candidates, in particular the hypothesis of a research programme, the Selection Committee shall carry out its own evaluation, in accordance with the provisions of the *European Framework for Research Careers* (<https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors>) for the R1 profile (*First stage researchers*), i.e.:

- :
- ability to conduct original research under the guidance of supervisors;
 - ambition to develop knowledge of research-related methodologies and disciplines;
 - good knowledge of the research area in which they intend to develop their thesis;
 - ability to produce data under the guidance of supervisors;
 - critical ability, analysis, evaluation, and synthesis of new and complex ideas;
 - ability to illustrate research results and their meaning.

Candidates deemed suitable in this first phase will be invited to take an oral exam, which will be held remotely.

At the end of the evaluation process, the Selection Committee shall draft the ranking list of candidates suitable for the PhD Programme, on the basis of the score obtained by each candidate.

The list of suitable candidates will be published on the Unicam institutional website and on the page <https://isas.unicam.it/dni/phd-tan/how-apply>. No personal communications will be sent: The publication of the short list has the value of official communication to the interested parties.

Suitable candidates, listed in the short list will be invited to one or more interviews, after which, the final ranking list for each Curriculum shall be drafted. The interviews will be conducted

remotely, in English language, by the previously appointed Sub-Committees, supplemented where appropriate by experienced researchers also external to the Consortium.

The date of the interview will be communicated to candidates via e-mail, with a minimum 7-day notice.

In this case, as well, the evaluation will refer to the provisions of the *European Framework for Research Careers* for the R1 (*First stage researchers*) profile.

The final ranking list will be published on the SAS institutional website, at <https://isas.unicam.it/dni/phd-tan/how-apply>. Within 10 days of the end of the selection procedure, suitable candidates will be notified of their admission.

The final ranking list:

- is drafted in order of the score obtained by the candidate; in the event of a tie between two or more candidates, the younger candidate shall have the priority;
- indicates the suitability of the research topics assigned by the Committee according to the order of preference expressed by the candidate at the time of application.

The assignment of scholarships is made following the procedure below:

1. Each candidate, following the order of the ranking list, is offered the first available scholarship, for which he/she was eligible, according to the order of preference expressed at the time of application, by notifying them to the e-mail address entered in the application form;
2. The candidate is required to accept the proposed scholarship by replying via e-mail within the deadline indicated in the communication referred to in the previous point;
3. If the candidate accepts the scholarship within the indicated deadline, the scholarship awarded to him / her shall be removed from the count of available scholarships;
4. If the candidate renounces or does not respond within the indicated term, he or she shall lose the right to the proposed scholarship, or any other scholarship. The proposed scholarship is therefore not awarded, and remains available for subsequent candidates in the ranking list order.

The procedure shall continue until all scholarships have been awarded, and shall be completed by 30 October 2021.

Only upon request, the excluded candidates will be sent a summary judgment on their performance drawn up by the Selection Committee.

Drawing from the ranking list of suitable candidates, the Academic Board reserves the right to assign other positions. The grants will be tied to the availability of additional funding for the 38th cycle of the PhD Programme.

Participants in the selection will have 30 days to submit any complaints to PhD.blockchain.DLT@unicam.it. These will be sent to the Head of Corruption Prevention and Transparency of the University, who, in collaboration with the students' Ombudsman, will examine and respond to the issues submitted to him/her within 30 days following the submission of the complaint.

Admission criteria and pertaining weight: Scientific qualifications + oral exam

<p>Scientific qualifications: max 20 points</p> <p>Project proposal + Letter of Purpose: max 20 points</p> <p>Admission to oral exam: Minimal score 30/40</p> <p>Oral exam: 60 points</p> <p>Total score: 100 points</p> <p>Admission: Minimum of 70 points</p>

Art. 6 – ACCEPTANCE OF POSITIONS AND METHODS OF ENROLMENT IN THE PROGRAMMES

Candidates admitted to PhD Programmes (including those “under reserve”) must send, within the peremptory deadline of 10 days from the communication of admission to the programmes, a declaration of acceptance of enrolment to PhD.blockchain.DLT@unicam.it.

Once the selection procedure exams have been completed, and after acceptance by the PhD student, the Rector of the University of Camerino shall approve the ranking list formulated by the Selection Committee, assigning the places and scholarships available for the selection procedure.

Applications for enrolment, addressed to the Rector of the University of Camerino, must be submitted, within the deadline, exclusively online through the appropriate section on the website of the coordinating University (University of Camerino), where all the necessary information is published. In the applications, which must be completed online within the indicated deadlines, the students must self-certify, in accordance with Presidential Decree No. 445/2000, their personal details, residence, domicile, tax code, the truthfulness of the data contained in the copy of the identity document, the achievement of a secondary school diploma, the fact that they are not simultaneously enrolled in more than one university programme. In the enrolment applications, the students must also sign the privacy statement, the statement for the release of the password enabling the use of IT services, and the request for any benefits. During the enrolment process, the student must attach a copy of a valid identity document.

Enrolment is considered regularly closed, and therefore accepted, when the entire online procedure has been completed, and all the required fees have been paid, and the required attachments have been uploaded.

No delivery or shipment of paper material must be made.

Candidates who have obtained the academic qualification abroad, must submit, for enrolment purposes, the Declaration of Value (or a copy of the request made to the competent authorities), issued by the Italian Embassy of the country in which the qualification was issued, or the Statement of Comparability and Verification of the qualification issued by CIMEA (Academic Equivalence Mobility Information Centre).

In the Declaration of Value, it must be specified that the qualification that allows access to doctoral courses was obtained after 17 years of schooling, and that it meets the academic requirements for access to third-cycle courses in the country of issue.

An official translation in Italian of the diploma and of Transcript of Records is also required, showing the exams taken and the grades obtained, if not already produced in English.

This documentation must be sent in advance by email to PhD.blockchain.DLT@unicam.it, and presented in original copy to formalise the registration, once the candidate has arrived at Italy.

Enrolment remains subject to the assessment of the suitability of the qualification by the academic bodies for the sole purpose of enrolment.

Candidates who require a visa to enter Italy, once they have received the official letter of admission to the PhD programme, must submit an application for pre-enrolment through the, UniversItaly Portal, at <https://www.universitaly.it/index.php/dashboard>, no later than 10 days from the date of the notification.

Art. 7 – ALLOCATION OF SCHOLARSHIPS

For the attribution of scholarships, it is required that the candidate has obtained the degree required for the admission to the PhD programme less than six years prior to the deadline indicated in the Notice, which can be increased to eight years if the candidate has also attended a Specialisation School, and a further year for any pregnancy.

The monthly gross amount of scholarships is € 1,353.58 (one thousand three hundred and fifty three euros / 58 cents). The amount of the scholarship increases by 50% for periods of stay abroad.

The stay abroad, with a minimum duration of 6 months, must be authorised by the PhD student supervisor, and cannot exceed a total of 12 months. PhD students can also carry out mobility periods in Italy, preferably within the research institutions of the Consortium.

Each PhD student, with or without scholarship or other forms of support, is guaranteed a *budget* for research activities in Italy or abroad of not less than 20% of the amount of the scholarship.

For the entire duration of the PhD Programme it is forbidden to hold a permanent employment contract.

For the benefit of the scholarship, PhD students avail themselves of the faculty of self-certification to be referred to the tax period coinciding with the calendar year in which the scholarship is actually paid. This communication must be sent to the SAS offices no later than 31 July of each year. The university administration may carry out checks on the veracity of the aforementioned self-certifications.

In the event that the annual emoluments of the PhD student with scholarship, during the course of the PhD programme (excluding the year of the issue of the Notice of Selection Procedure) exceed the annual amount of the scholarship net of charges (for the Academic Year 2022-2023, this amount is calculated in € 14,346.36), the PhD student shall forfeit the receipt of the scholarship, with the obligation to repay the amount already received in the reference calendar year.

The scholarships are disbursed in 36 deferred monthly instalments, have an annual duration, and are renewed on the condition that each student has completed the programme of activities planned for the previous year, according to the evaluation made by the Academic Board.

Anyone who, for at least one year, has benefited from a scholarship for a PhD programme in Italy, cannot ask to benefit from it a second time.

Scholarships cannot be combined with other scholarships conferred for any reason, except with those granted by national or foreign institutions aimed at supporting stays abroad for the purposes of training or research activity of PhD students.

Foreign, non-EU PhD students are guaranteed same healthcare as Italians and EU citizens, but registration with the National Health Service is mandatory. Furthermore, foreign non-EU PhD students must comply with the rules relating to entry visas, and make a request for the issue and annual renewal of a residence permit; the cost of approximately € 120.00 (one hundred and twenty euros / 00) is to be paid by the applicant.

Art. 8 – FEES FOR ACCESS AND ATTENDANCE TO PhD PROGRAMMES

The annual amount of fees for access to PhD Programmes and for the relative attendance will be available in the Manifesto of Studies under “University Fees”, which will be approved by the Academic Bodies and published on the institutional website of the coordinating website (University of Camerino).

Upon enrolment, candidates admitted to the PhD programme are required to pay the regional tax (Marche Region) for the right to university study in the amount of € 140, and the stamp duty paid electronically, in the amount of € 16. PhD students without a scholarship who are included in the ERDIS (Regional Body for the Right to University Education) right to study ranking lists are also exempted from paying the regional tax for the right to university study, which will subsequently be reimbursed, once the compliance with the requirements has been verified.

Art. 9 – DUTIES OF PhD STUDENTS

PhD students have the status of a university student.

Admission to the PhD Programme involves an exclusive and full-time commitment, and a commitment to the performance of all study and research activities within the relevant department, in accordance with the provisions of the Regulations on PhD Programmes, and the procedures established by the Academic Board.

PhD students are required to submit to the Academic Board, at the end of each year, a report on the activity carried out, also for the purpose of renewing the scholarship, if they are scholarship holders. In the event of non-fulfilment of the obligations, after at least 6 months from the start of the activities, the Academic Board may decide to exclude the PhD student from the Programme, and from the benefit of the scholarship. Any exclusion shall take effect from the date of the decision of the Academic Board.

As part of the educational activities provided by the Academic Board, PhD students may be engaged in internships with public or private entities outside the University.

PhD students may carry out tutoring and/or supplementary teaching activities, without this entailing any increase in the scholarship, also through the assignment of specific teaching modules. The Department in which the PhD student carries out his/her activity has the duty to ensure that the accumulation of teaching activities possibly entrusted to the PhD student in any capacity is such as not to jeopardize the successful performance of the research activities, and in any case does not exceed the limit of 40 hours/year. It is the task of the Academic Board of reference to monitor that the PhD students fulfil their obligations.

Without prejudice to the full-time commitment, work activities, including paid ones, concerning practical professional training or limited external work activity that allows the acquisition of skills relating to the formative field of the PhD Programme, are also compatible with the PhD Programme, subject to the authorisation of the Academic Board. For PhD students with scholarships, the provisions and limits set out in Article 8 of this Notice of Selection Procedure shall apply.

Pursuant to Law No. 33 of 12 April 2022, simultaneous enrolment in a bachelor's or master's degree course, and in a university master, PhD programme, or specialisation programme is allowed, with the exception of medical specialisation courses, as well as simultaneous enrolment in a PhD programme or a university master, and in a medical specialisation programme. Simultaneous enrolment is allowed in Italian, or Italian and foreign institutions. The obligation to

possess the qualifications required by the regulations for enrolment in single study programmes remains unaffected.

Public employees admitted to the PhD programme without the benefit of a scholarship shall be placed, on request, compatibly with the needs of the Public Administration Body in which they work, on extraordinary leave for study reasons, with the right to keep their salary, social security and retirement benefits from the public administration body with which they have signed the employment contract, except for the possible refund of salaries received in the event of voluntary termination, in the two years following the achievement of PhD degree (Article 2 of Law No. 476 of 13 August 1984, and subsequent amendments).

Art. 10 – AWARD OF THE DEGREE

The PhD degree, abbreviated in Italian as "*Dott. Ric.*", or "*PhD*", is awarded jointly, by academic authorities of Universities belonging to the Consortium, and is obtained upon passing the final exam.

To take the final exam, PhD students must submit a copy of the PhD thesis in electronic format to the SAS, accompanied by the judgment of the external evaluators.

The thesis consists of a written dissertation, to which a report on the activities carried out in the entire PhD Programme, and on any publications, must be attached.

The Academic Board, upon proposal of the curriculum Board, shall designate at least two evaluators, of which at least one is a university professor, highly qualified and external to the Consortium, who are called to express a written opinion on the doctoral thesis. The Evaluators shall propose admission to the final exam, or postponement for a period not exceeding 6 months, if they deem that significant additions or corrections are necessary.

The Final Exam Committees are appointed by the PhD Programme Coordinator, on the proposal of the Academic Board for the relevant curriculum, and are made up of tenured university professors and researchers, Heads of courses pertaining to the academic disciplines to which the course refers, and external to the Academic Board.

PhD students admitted to take the final exam must upload their doctoral thesis on a special platform for evaluation by the members of the Selection Committee.

Suspension from the PhD Programme is allowed for the periods relating to the following cases:

- for pregnancy, maternity, and paternity leave, according to the provisions of the Legislative Decree No. 151 of 26 March 2001, and subsequent amendments, and the Decree of the Ministry of Labour and Social Security of 12 July 2007;
- for severe and prolonged illness;
- for military service.

PhD students who make use of a suspension period are obliged to recover the entire period after the end of the three years, with consequent disbursement of the suspended scholarship to the scholarship holders, provided that, if the scholarship is provided by an external body, there are no restrictions on the extension of the scholarship beyond three years.

PhD students may also renounce the scholarship. In this case, while maintaining their student status, they all right to receive the scholarship.

In the event of unjustified absence or non-fulfilment of the obligations, including the non-completion of the activities planned at the end of each year, the Academic Board may propose the exclusion of the PhD student from the programme, with the consequent loss of the right to receive the scholarship, where perceived.

PhD students benefit from accident and civil liability insurance coverage for the entire duration of the Programme, and only for the activities relating to the PhD programme.

Art. 11– PROCESSING OF PERSONAL DATA

The University, implementing the “Code regarding the protection of personal data” (Legislative Decree No. 196 of 30 June 2003, and subsequent amendments), “Consolidated Law on privacy and the use of information systems” (Legislative Decree No. 271/2009, and subsequent amendments), and the General Data Protection Regulation (EU Regulation 2016/679), as data controller, undertakes to process the personal data and contacts provided by the candidate for the completion of the selection procedures, and for the pursuit of its institutional purposes.

Participation in the selection procedure implies the expression of tacit consent, so that the names of the candidates and the results of the selection procedure tests are published on the UNICAM website, and the SAS website.

Art. 12 – RULES FOR REFERENCE

For matters not covered by this Notice, reference is made to the regulations in force on the subject of PhD programmes, in particular to:

- Ministerial Decree No. 226/2021
- Regulations of the School of Advanced Studies of the University of Camerino, issued with Rector’s Decree No. 168/2022.
- Regulations of the National PhD Programme in “Blockchain e Distributed Ledger Technology”.

This Notice of Selection Procedure shall be published on the European Euraxess website, on the website of the Ministry of Education, University, and Research, on the institutional website of the University, and on the SAS website.

Manager of the administrative procedure is Ms. Natascia Alessandrini.

For information, interested parties can contact the SAS offices by timely sending an email to PhD.blockchain.DLT@unicam.it.

THE RECTOR
Prof. Claudio Pettinari