Ph.D. Course in MATHEMATICS AND MODELING	
Ordinary places	**13**
Of which	
with full grant	**11**
without financial support	**2**
Grant/Fellowship Funding source	• 6 grants - University of L'Aquila • 2 grants financed pursuant to Ministerial Decree 118/2023 • Mission 4, Component 1, Investment 3.4. of the PNRR – "Digital and environmental transitions" – CUP E11I23000060001 • 3 grants financed pursuant to Ministerial Decree 118/2023 • Mission 4, Component 1, Investment 4.1. of the PNRR – "PNRR Research" - CUP E11I23000120001
Grants subjects DM 118/2023 M4C1 – Inv. 3.4 "Digital and environmental transitions"	**2 grants** aimed at carrying out research concerning: • "*Development of mathematical nonstationary signal analysis methods for euclidean and non euclidean spaces and their application to theimprovement of circular economy (magieco)*" - Referring Professor: *A. Cicone* • "*Variational models for the study and synthesis of complex innovative metamaterials*" - Referring Professor: *I. Giorgio*
Grants subjects DM 118/2023 M4C1 – Inv. 4.1 " PNRR Research"	**3 grants** aimed at carrying out research concerning: • "*Non-local deterministic modelling for the diffusion of epidemics*" - Referring Professor: *M. Di Francesco* • "*Quantum computing in the study of systems in topologically non-trivial phases*" - Referring Professors: *L. Guidoni* and S. *Paganelli* • "*Expansion methods in statistical mechanics and their application in theoretical computer science*" - Docente referente: *T. Kuna*
Duration	3 years
Curricula	///
University Department Responsible for the Ph.D. Course	Department of Engineering, Computer Science and Mathematics
Ph.D. Course Website	*http://people.disim.univaq.it/~dottorato_mate_mode*
Ph.D. Course Coordinator	*Prof. Davide GABRIELLI* davide.gabrielli@univaq.it
Admission Pre-requisites	All Master-level Degrees or foreign degrees with certified equivalency or recognized as equivalent to the aforementioned qualifications. Within the deadline indicated in this call for applications, candidates who are expected to obtain the above mentioned Degrees by no later than the enrollment, and before the Ph.D. programme's start date may also apply.
Admission Procedure	Qualification evaluation and oral exam. Foreign applicants can take the oral exam in English. Applicants may take the oral exam via web. In this case the candidate must specify the means they wish to use for their interview indicating a valid contact address. This request must be authorized by the testing commission once the identity of the candidate has been certified, to this end the candidate shall be required to show a valid identification document at the moment of the interview.
Examination topics	Presentation of the thesis and research activity.

	Discussion and questions on topics of basic mathematical culture. Specific questions concerning the topic of research for candidates applying for thematic grants
How to apply	The application must be submitted only via the online procedure available at: https://pica.cineca.it/univaq/dottorato39. The documents must be attached in pdf format. The application and the attached documents are submitted automatically by closing the online procedure. So, no hard copy of the application and of the documents must be sent to the office.
Documents to be annexed to the Application	1. CV 2. Candidates holding a degree from an Italian university must provide: • Self-certification concerning their Bachelor-level Degree indicating final mark and list of exams taken and marks obtained; • Self-certification concerning their Master-level Degree course indicating final mark and list of exams taken and marks obtained. 3. Candidates enrolled in an Italian Degree Course must include: • Self-certification of their Bachelor-level Degree indicating final mark and list of exams taken and marks obtained; • Self-certification of the exams so far taken in their Master-level Degree course indicating marks obtained. 4. Applicants with foreign Degrees must follow the directions explained in article n. 4 of this call. 5. The candidate must indicate the name of two professors with their e-mail address. The referee will receive an e-mail with the instruction to write the recommendation letter directly on line. 6. Summary, max. 2 pages, of the candidate's Degree thesis. 7. Any publications and additional qualifications deemed appropriate for assessment.
Language(s)	**Assessment of foreign language skills** English language skills and competence shall be assessed during the oral exam. **Admission** The candidate may sit exams in ENGLISH
Exam schedule	**Qualification assessment: 1st September, 2023 at 9:00 a.m.** **Oral Exam: 8th September, 2023 at 09:00 a.m.** at the Department of Information Engineering, Computer Science and Mathematics – Classroom: A0.4 - building "Alan Turing" Coppito – L'Aquila
Assessment Criteria	The examination procedure consists in two phases: qualification assessment and an oral exam. The candidate's scores will be indicated out of a total of 100 points attributed as follows: 1. **Qualification assessment:** Assessment of the candidate's CV, letters of recommendation, publications and other qualifications. The minimum score required for admission to sit the oral exam is 30, the maximum score is 50 points. 2. **Oral exam:** The oral exam consists in the candidate's presentation of his/her Degree thesis and research activity. The aim is to evaluate the candidate's aptitude and motivation for research. The test also includes assessment of the candidate's English language skills. The foreign candidates may sit the oral exam in English. The minimum score needed to pass is 30 over a max of 50 points for the oral exam.
Title evaluation results publication	Title evaluation results shall be published on the University website https://www.univaq.it/section.php?id=2207 and on PhD website: http://people.disim.univaq.it/~dottorato_mate_mode/

Reserved Ph.D. positions not part of the selection procedure (assigned through other procedures)	Positions reserved for students selected within specific international mobility programs: n. 2
	Positions reserved for scholarship holders from foreign countries: n. 2
	Positions covered by scholarship reserved for applicants having obtained a Degree abroad n.0
	Positions not covered by scholarship reserved for applicants having obtained a Degree abroad n. 1