PUBLIC COMPETITIVE EXAMINATION FOR ADMISSION TO PhD PROGRAMMES
33rd CYCLE
RE-OPENING RECTORAL DECREE NO. 991 OF THE 31/07/2017
DOCTORATE IN MATHEMATICS AND COMPUTER SCIENCE

THE RECTOR

In view of	the Statute of Autonomy of the University of Calabria;
In view of	the University Regulations;
In view of	the University Didactic Regulations;
In view of	the Regulations for the Administration and Accounting;
In view of	the Regulation of the Doctoral Programmes of Research of the University of Calabria, issued by Rector's Decree No. 1330 of 3 July 2013, and new additions and/or modifications;
In view of	the Decree of the President of the Republic N° 445 of 28 December 2000 "*Testo Unico delle disposizioni legislative e regolamentari in materia di documentazione amministrativa*" (Law containing provisions relating to administrative documentation);
In view of	the Legislative Decree N° 196 of 30 June 2003 "*Code regarding the protection of personal data*";
In view of	the Ministerial Decree 18.06.2008 with which the annual amount of the grant to attend Ph.D. courses has been established at €13,638.47 gross, including social security expenses to be paid by the payee;
In view of	the Law N° 240 of 30 December 2010, in particular art. 19, containing provisions for PhDs;
In view of	the Ministerial Decree N° 45 of 8 February 2013, "*Regulation procedures for accrediting universities and PhD courses and the criteria for implementing Doctorate courses by credited Institutions*";
In view of	the Ministerial Decree Prot. 628 of 19.08.2014 about accreditation;
In view of	the Ministerial Decree no° 976 of 29 December 2014 concerning the "*Fondo per il sostegno dei giovani e favorire la mobilità degli studenti - FGMS, ai sensi dell'art. 1 del D.L-decreto-legge 9 maggio 2003 n. 105, convertito dalla legge 11 luglio 2003 n. 170*";
In view of	the Programma Operativo Nazionale Ricerca e Innovazione 2014 – 2020 (CCI 2014IT16M2OP005);
In view of	the Ministerial Decree no° 1377 of 5 June 2017 with which, in the framework of the Programma Operativo Nazionale FSE-FESR Ricerca e Innovazione 2014 - 2020 (PON RI 2014-2020) - Asse Prioritario I "*Investimenti in Capitale Umano*" - Azione I.1 "*Dottorati innovativi a caratterizzazione industriale*", in order to support the promotion and strengthening of high education and doctoral degree postgraduate specialization in areas considered strategic and in disciplines with strong scientific-technological vocation, a selection call was issued for the funding of additional PhD fellowships related to the attendance of the XXXIII cycle of PhD programs for the academic year 2017/2018;
In view of	the Ministerial Decree no° 1676 of 7 July 2017 with which the deadline of the above mentioned selection call PON RI 2014-2020 was postponed;
Considering	that the aforementioned scholarships are intended to finance doctoral courses in which the doctoral candidate is obliged to carry out a period of study and research at companies engaged in industrial activities for the production of goods or services and a period of study and research abroad in order to qualify "in the industrial sense" their own training and research experiences;
In view of	the Programma Operativo Regionale Calabria FSE/FESR 2014 – 2020 (CCI 2014IT16M2OP006);
In view of	the Resolution of the Council of the Calabrian Region no° 305 of 9 August 2016 "POR Calabria FESR/FSE 2014/2020 - Approvazione Linee di Indirizzo del Progetto Strategico Regionale "CalabriAltaFormazione - Valorizzazione e sviluppo del sistema universitario, dell'Alta Formazione Artistica, Musicale e coreutica e della Ricerca in Calabria";

In view of	the Rector Decree No. 991 of the 31 July 2017, related to Public competitive examination for admission to PhD programmes - XXXIII cycle;
Considering	that at the end of competition held according to Rector Decree No. 991 of the 31 July 2017 2 places without fellowship of the doctorate in Mathematics and Computer Science have not been assigned;
In view of	the Rector's Decree no° 1197 of 5 October 2017 concerning the approval of the ranking lists for the admission to the doctorate in Mathematics and Computer Sciences and the election of winners with a scholarship;
In view of	the notice Prot. no° 170021799 of 9 October 2017, send by Dr. Vittorio SOLINA, winner of a scholarship funded by University of Calabria, of the Doctorate in Mathematics and Computer Sciences, that turn down the enrollment;
In view of	the requests of the Coordinators of the Doctorate in Mathematics and Computer Sciences, Prot. no° 897 of 9 October 2017, interested to the reopening of the admission procedure on unfilled PhD positions;
Considering	appropriate to reopen the deadline of the call for admission to PhD course in Mathematics and Computer Sciences on vacant positions for admission to the 33rd cycle PhDs at the University of Calabria;
Considering	necessary to provide about;

DECREES

Art. 1 Reopening of call for application

1. The present Decree reopens the call for application of the Rector Decree No. 991 of the 31 July 2017, related to Public competitive examination for admission to PhD programmes in Mathematics and Computer Sciences - XXXIII cycle, for the position have not been assigned as described in the "Annex A – Analytical Table - PhD courses 33rd cycle – Academic Year 2017/2018", which is an integral part of this decree.

2. In the Annex A provides the following information: the Coordinator, the duration, the relevant Department and any other Department that may be involved, the Subject Areas, the research topics or the course curricula, the requirements for participation, the admission criteria, the qualifications to be enclosed with the application, the assessment criteria, the number of available positions and the number of scholarships specifying the funders and the research fields also in relation to the single curricula if they are mentioned, information on the exam timetable, an address for enquiries and the course website are also indicated.

Art. 2. New deadline for the call for application

1. The application for admission to the selection procedure, must be submitted, no later than **the deadline of 12:00 a.m. (Italian time) on 23 October 2017** exclusively using the on-line procedure available on the website: http://unical.ugmanager.it.

2. The date of submission of application for admission to the selection procedure is certified by the computer system, by the deadline for submission, no longer allow access and sending the application.

3. The other documents to be annexed to the application form are listed on the Rector Decree No. 991 of the 31 July 2017 and in the annex A of this decree.

Art. 3 Admission

The admission tests schedule for PhD course in Mathematics and Computer Sciences listed in the abovementioned "Annex A" is equivalent to a notification to applicants. Any modifications, updates or additions to its content will be published exclusively on the website http://unical.ugmanager.it on the page *Decreti e Avvisi*.

Art. 4 Admissions Committees

1. The Admission Committee in charge of the PhD competitions in Mathematics and Computer Sciences, are appointed by the Rector in accordance with the University of Calabria "Regulation for PhD courses".

2. The composition of Admission Committee will be published, after the announcement deadline has expired, on the website http://unical.ugmanager.it on the page *Decreti e Avvisi*.

Art. 5 Admission to PhD Course

1. The Rector acts to verify the validity of the competition records and approves the ranking lists for selection procedure of the PhD Course in Mathematics and Computer Sciences with a Rector's Decree.

2. The ranking list will be published on the website http://unical.ugmanager.it on the page *Decreti e Avvisi*.

Art. 6 Use of personal data

1. Pursuant to Article 13 of Legislative Decree n.196 of 30 June 2003, candidates are hereby informed that their personal data shall be collected and processed in an automated database by the University of Calabria, even after the selection procedure, for use in the selection procedure and for the management of the academic career of successful PhD students. They may also be used for statistical purpose by the Ministry of the University and Research. Providing such data is necessary for the evaluation of the participation requirements. Failure to do so will result in the candidate's exclusion from the selection procedure.

2. The personal information provided by the candidates will be communicated to the University of Calabria's administrative office and to the Public Institutions directly concerned with the legal and financial position of successful candidates.

3. Candidates are entitled to benefit from the rights stated in Article 7 of Legislative Decree No. 196/2003, including access to personal data, their modification, update, integration, cancellation whether these data are false, incomplete or have been collected illegally, and likewise reserve the right to oppose any use of the data for legitimate reasons.

Art. 7 Person in charge of the procedure

In compliance with Law No. 241 of 7 August 1990, the person in charge of the procedure stated in this announcement is Ms. Sonia Gallo - Università della Calabria (e-mail: sonia.gallo@unical.it; tel: 0984/493741).

Art. 8. Referral norms

For matters not expressly stated in this decree, reference is made to what is stated in the Rector Decree No. 991 of the 31 July 2017, available at the websites:
http://www.unical.it/portale/concorsi/ e http://unical.ugmanager.it/.

Art. 9 Final regulations

1. This call for applications will be published on the website of the Italian Ministry of Education, Universities and Research and on the University websites: http://www.unical.it/portale/concorsi/ and http://unical.ugmanager.it/ is equivalent to a notification to all intents and purposes.

2. This reopening of the call for applications is the English translation of the Italian version and is not binding for legal purposes. In the event of dispute or disagreements, the Italian version of this call shall prevail.

IL RETTORE
(*Prof. Gino Mirocle Crisci*)

Annex A
Analytical Table
PhD courses 33rd cycle
Academic Year 2017/2018

N°	PhD Programme	Coordinator	Available positions	Pages
1	Mathematics and Computer Sciences	Prof. Nicola Leone	3 positions one with fellowship by University of Calabria and two without scholarship	5-6

Doctorate in Mathematics and Computer Science

Coordinator	Professor Nicola LEONE, Department of Mathematics and Computer Science, Via Pietro Bucci, Cubo 30B, Tel.: +39 0984/496433, e-mail: leone@unical.it Subject Area: INF/01.
Duration	3 years
Main Department	Department of Mathematics and Computer Science
Subject Areas	Computer Science, Algebra, Geometry, Complementary Mathematics, Mathematical Analysis, Probability and Statistics, Mathematical Physics, Operations Research
Research Topics	The main research topics concerned in the doctor's degree are listed below: • Artificial Intelligence, Knowledge Representation and Reasoning, Answer Set Programming, Logic Programming, Constraint Satisfaction Problems. • Databases, Data and Knowledge Integration, Data and Text-Mining, Knowledge Management. • Theoretical Computer Science, Game theory, Decidability and Complexity Theory. • Grid Computing, Computational Science, Cellular Automata. • Optimization Models and Methods for solving problems in Transport and Logistics. • Combinatorics • Study of canonical models of surfaces of general type. Algebraic curves and their moduli spaces. Groups and Graphs. • Relationships between algebra and geometry and geometry and mathematical physics in modern and contemporary art. Historical developments of the theory of decisions. History of mathematics in education. Mathematics Education with particular reference to the role and use of technology in teaching and learning • Calculation of variations. Variational methods in Nonlinear Analysis; Theory of critical points and applications to nonlinear partial derived equations. Geometry of Banach spaces; Ordinary differential equations problems differential to the edge and not local. Methods of approximation implicit and explicit. Minimum problems and projections. Solutions to problems of equilibrium (mixed and generalized). Uniform distribution and discrepancy. Almost Monte Carlo integration methods. • Processes and random fields, namely: percolation, statistical mechanics, interacting particle systems, dynamic systems, quantitative finance, stochastic simulation and mathematical statistics. • Problems of Quantum Theory. Group-theoretic approach to the theory of the interaction. Semiclassical models and quantum for the transport of current and heat in semiconductors. Problems coupling devices-electrical networks. • Sequences of Sheffer polynomials and approximation of operators involved. Numerical approximation of solutions of partial differential equations of high order and with boundary conditions that initial. Approximations for Scattered Data Interpolation and rational. Applications of mathematics to engineering problems and statistics.
Participation Requirements	- Italian Specialist/Master's Degree (ex DM 509/1999 e DM 270/2004) or equivalent Degree awarded by an accredited foreign university or Italian University Degree (ante DM 509/1999).
Admission Procedures	Evaluation of qualifications, written examination and oral examination. The knowledge of the English Language will be assessed during the oral examination
Assessable qualification	- Research Project - Curriculum Vitae et Studiorum (CV), including a copy of Bachelor's and Master's Degree (in Italian or English), and the list of examinations taken with grades and final mark (download the template from www.mat.unical.it/phd/Admission) An additional copy of above-mentioned documents has to send to the following e-mail address: phd@mat.unical.it

	Total Score 90/90			
Assessment criteria	**Assessable Qualification**		**Total Score 30/30**	
	Research Project		Total Score 6	
	Curriculum vitae et studiorum		Total Score 24	
	Written Exam Operating methods: an essay and two exercises on the disciplines pertaining to the doctorate.		**Total Score 30/30**	
	Oral Examination Operating methods: discussion about the project and written examination. Interview on the disciplines of interest for the doctorate. Foreign candidates can take the exam via skype.		**Total Score 30/30**	
	Minimum Score required for the ammision to the next tests and for the oral examination: **score 21/30**.			
Positions and scholarship	3 (three) applications, organized as follows			
	- 1 position granted by University of Calabria			
	- 2 positions without a grant.			
Agenda	**Description**	**When**	**Time**	**Where**
	Assessable qualification (applicants presence not requested)	**October 25, 2017**		
	Written Exam	**October 26, 2017**	**10:00 am**	Classroom MT10 - Cubo 30B, Department of Mathematics and Computer Science – University of Calabria
	Oral Examination	**October 27, 2017**	**10:00 am**	Classroom MT10 – Cubo 30B Department of Mathematics and Computer Science – University of Calabria
	The results of the exam will be posted on the site: www.mat.unical.it/phd/Admission			
Information	alessia.cosentino@unical.it			
Phd website	www.mat.unical.it/phd			