ANNEX 3

ID NUMBER	SPACE_03
PHD TITLE	**COSMOLOGY, SPACE SCIENCE & SPACE TECHNOLOGY**
AVAILABLE POSITIONS	1 SSM Doctoral Fellowship
	5 PNRR Doctoral Fellowships (on research themes relevant for the PNRR)
	1 PNRR Doctoral Fellowships – Public Administration (on research themes relevant for the specific PNRR subprogram)
	1 PNRR Doctoral Fellowship – Digital and Environmental Transition (on research themes relevant for the specific PNRR subprogram)
PHD AND SELECTION FEATURES	The Ph.D. program in ***"Cosmology, Space Science and Space Technology"* (SPACE)** consists of a 4 years long activity of research and study in scientific and technical areas involving the "Space" in all its possible scientific and technological declinations. It is intended for strongly motivated students interested in developing advanced researches in: cosmology, astrophysics, fundamental physics, space instrumentation, astroparticle physics, microgravity, fluid physics, remote sensing, general relativity, relativistic astrophysics, multi-messenger astronomy, planetary exploration, celestial mechanics, swarms and formation in flight, propulsion and re-enter, maintenance in orbit, detection and removal of debris, material science in extraterrestrial environment. In particular, the Ph.D. program is characterized by a strong multidisciplinary approach intended to develop a common framework of knowledge in space disciplines for students coming, mainly, from courses of studies in Physics, Mathematics and Engineering. Applicants are required to have a Master Degree (Laurea Magistrale), or an equivalent degree obtained in Italy or abroad. The eligibility of foreign degrees is assessed by the Selection Committee. The admission to the Ph.D. program is granted after passing a public competition based on **qualifications, presentation letters, a scientific report and an interview**. The examination is based on the evaluation by the review board, of qualifications, the scientific report on the topics of the Ph.D. program (max 60 points), and the final oral exam in English (max 40 points). A short list of applicants, admitted to the interview, will be published in advance.
DESCRIPTION OF THE RESEARCH LINES OF THE DOCTORAL PROGRAM	The PhD in *"Cosmology, Space Science and Space Technology"* is an innovative PhD program with an international and interdisciplinary characterization. The aim is to attract the motivated students and involving outstanding international experts in the teaching activity inside and outside the PhD Board. It is mandatory, for each PhD student, to spend up to one year (even divided into quarters or semesters) in foreign universities and research institutions. The training activity is aimed at allowing continuous contacts between teaching staff and PhD students. The teaching activity is more concentrated in the first year, while, in the following three years, PhD students are committed to develop research and periodically to account for its progress, both in individual interviews and in periodic seminar meetings. The research activity, based on the above research areas, is carried out by each PhD student under the supervision of a thesis director chosen among the members of the PhD Board. The thesis directors (or supervisors) are required to confirm, in the annual report sent to the Coordinator, data relating on training and research activities declared by each PhD student. The fulfillment of each PhD student obligations is approved by the PhD Board when evaluating the annual report on the activity carried out. The thesis director, designated by the PhD Board, can be supported by a second thesis director chosen both inside or outside the

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	PhD Board. During the first year of the course the student will select the topic on which she/he intends to conduct her/his research. Recipients of the PNRR-funded scholarships are expected to be involved in a research topic aligned with themes in the areas of interest of the PNRR (https://www.governo.it/sites/governo.it/files/PNRR.pdf). These topics focus on the development of knowledge, including applied knowledge, in public research institutions.
SCIENTIFIC COORDINATOR	Prof. Salvatore Capozziello
SCIENTIFIC REPORT TO BE ATTACHED TO THE APPLICATION	Scientific report in English (max. 2,500 words/15,000 characters, short bibliography included) with a description of the topic of the master's thesis or a scientific topic addressed subsequently by the candidate in the course of her/his experience, divided into sections illustrating the state of the art, objectives, results obtained, methodology used, and possible future developments.
COURSE LENGTH (IN YEARS)	4
ANNUAL GROSS AMOUNT OF THE SCHOLARSHIP NET OF CHARGES BORNE BY THE UNIVERSITY	€19,000 + 50% increase of the monthly installment of the fellowship for stays abroad (for a maximum of 12 monthly installments)
RESEARCH BUDGET	10% of the fellowship in the first year, 20% of the fellowship in the three following years
E-MAIL ADDRESS FOR INFORMATION	space@ssmeridionale.it
PROGRAM'S WEBPAGE	https://www.ssmeridionale.it/it-it/dottorato/rubriche/cosmology-space-science-space-technology-space-3121-1-63874f45efd6ae90cd10abd88dfacc51
WEBPAGE FOR INFORMATION AND NOTIFICATIONS TO CANDIDATES	https://www.ssmeridionale.it/en-us/la-scuola/bandi-di-concorso/dottorati

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