



UNIVERSITÀ DEGLI STUDI DI MILANO  
DIPARTIMENTO DI FISICA

COMPETITION FOR ADMISSION TO DOCTORATE SCHOOL IN PHYSICS, ASTROPHYSICS AND APPLIED PHYSICS  
XXXIII<sup>rd</sup> CYCLE - A.Y. 2017/2018

Criteria for evaluation of the curriculum (max 20 points)

a. University career - max 14 Points

For Italian candidates, the criteria of judgment have been the average of exam marks of the Bachelor and Master Degrees and the number of the 30 cum laude in the university career.

- the average of the exam marks of the Bachelor Degree ..... max 5 points
- the average of the exam marks of the Master Degree ..... max 5 points
- the number of the 30 cum laude in the university career ..... max 4 points

For foreign candidates, the criteria of judgment have been adapted to the pertinent University system.

b. Publications - max 2 points

c. Professional experience and other qualifications - max 4 points

Criteria for evaluation of the research project (max 10 points)

It has been evaluated: the clarity of exposure, the ability to synthesize the subject, the logical articulation; the nature of the proposal and the overall frame in the context of the state of the art, the originality and clarity of the candidate's role within the project.

EVALUATION OF DOCUMENTS SUBMITTED

Candidate	Curriculum	Project	Total	Result
ABDEL HAMEED MOHAMMED	-	-	-	Excluded (No English Lang.Certif.)
ALY MOHAMMED	13,0	6,0	19,0	Admitted
BAGNATO FILIPPO	10,0	7,0	17,0	Admitted
BARBIERI CLAUDIO	18,0	8,0	26,0	Admitted
BARTOLINI MATTEO	11,0	7,0	18,0	Admitted
BELIN SAMUEL	-	-	-	Excluded (No English Lang.Certif.)
BELLADITTA SILVIA	13,0	9,0	22,0	Admitted
BIANCHINI LINDA	18,0	9,0	27,0	Admitted
BUFFONI LORENZO	14,0	7,0	21,0	Admitted
CHIGHIZOLA MATTEO	13,0	8,0	21,0	Admitted
COLOMBO ERIKA	11,0	8,0	19,0	Admitted
DAS SANJEEDA BHARATI	8,0	5,0	13,0	Not Admitted
DE SIMONI MICOL	10,0	8,0	18,0	Admitted
DELAVARI NAJMEH	-	-	-	Excluded (No English Lang.Certif.)
DI CARLO UGO NICCOLO	14,0	7,0	21,0	Admitted
DONG YUNSHENG	14,0	8,0	22,0	Admitted
DWIVEDI SAURAV	8,0	4,0	12,0	Not Admitted
ELHABBASH MOHAMMED	10,0	5,0	15,0	Admitted
ESMAIL WALEED AHMED	9,0	6,0	15,0	Not Admitted
FABBRICATORE RICCARDO	13,0	8,0	21,0	Admitted
FAEDO FEDERICO MICHELE	19,0	9,0	28,0	Admitted
FERRARI STEFANO	-	-	-	Excluded (No English Lang.Certif.)
FORELLO ALICE CORINA	15,0	9,0	24,0	Admitted
GAIJAN MRUNALI	11,0	6,0	17,0	Admitted
GHANIM ABDELRAHMAN	8,0	6,0	14,0	Not Admitted
GHIRARDI LUCA	16,0	8,0	24,0	Admitted

Candidate	Curriculum	Project	Total	Result
GOSTA GIULIA	14,0	8,0	22,0	Admitted
INGHILTERRA ALESSANDRO	-	-	-	Excluded (No English Lang.Certif.)
KABRIT AMER	-	-	-	Excluded (No English Lang.Certif.)
KUMAR MANJEET	15,0	6,0	21,0	Admitted
LAGHI DANNY	16,0	7,0	23,0	Admitted
LONGO PIERSILVIO	10,0	7,0	17,0	Admitted
MAMBRETTI FRANCESCO	16,0	9,0	25,0	Admitted
MARIOTTO SAMUELE	17,0	8,0	25,0	Admitted
MEGIER ELIAS ARAWI SOL	11,0	9,0	20,0	Admitted
MELI ANDREA	10,0	8,0	18,0	Admitted
MEYNET SHANI NADIR	-	-	-	Excluded (No English Lang.Certif.)
MIRIGLIANO MATTEO	17,0	9,0	26,0	Admitted
MONTOLI ALESSANDRO	16,0	9,0	25,0	Admitted
MOUSAVI SAVADKOUHI NASIM	11,0	6,0	17,0	Admitted
MUSTAFA BESTOON	9,0	6,0	15,0	Not Admitted
NEGRI MATTEO	10,0	8,0	18,0	Admitted
NORIS RUGGERO	15,0	4,0	19,0	Not Admitted
OSMAN IBRAHIM	8,0	7,0	15,0	Not Admitted
PANZERI NICOLA	13,0	6,0	19,0	Admitted
PARADISO SIMONE	12,0	7,0	19,0	Admitted
PASTORE MAURO	15,0	8,0	23,0	Admitted
PIZZARDO MICHELE	16,0	8,0	24,0	Admitted
PUGLIA CLAUDIO	9,0	6,0	15,0	Not Admitted
REALINI SABRINA	16,0	9,0	25,0	Admitted
RONCA JONATHAN	-	-	-	Excluded (No English Lang.Certif.)
ROVELLI GIULIA	18,0	8,0	26,0	Admitted
SATAPATHY SARTHAK	9,0	6,0	15,0	Not Admitted
SAVORANA GIOVANNI	15,0	8,0	23,0	Admitted
SIMONETTO FEDERICA	10,0	9,0	19,0	Admitted
SINGH SHUBHAM KUMAR	8,0	4,0	12,0	Not Admitted
SPADARO NORELLA	14,0	8,0	22,0	Admitted
TEBYANIAN HAMID	-	-	-	Excluded (No English Lang.Certif.)
TOGNAZZI ANDREA	10,0	8,0	18,0	Admitted
VANJUR LUKA	11,0	8,0	19,0	Admitted
VANNINI FRANCESCO	-	-	-	Excluded (No English Lang.Certif.)
VERONESI BENEDETTA MARIA	14,0	7,0	21,0	Admitted
ZIMBA GEORGE	9,0	4,0	13,0	Not Admitted

### CALENDAR OF ORAL EXAMINATIONS

*Tuesday 12<sup>th</sup> September 2017- h. 9:00 pm - Sala Polvani*

N°	candidates	project title
1	DONG YUNSHENG	Study and design of a Time Projection Chamber with a novel readout system in the framework of the FOOT experiment.
2	BELLADITTA SILVIA	Occurrence and mass distribution of infalling gas clumps in the outskirts of massive galaxy clusters.
3	MARIOTTO SAMUELE	Sviluppo di metodologie per misure magnetiche e caratterizzazione di magneti superconduttori.
4	REALINI SABRINA	Assessment of the optical performance of the STRIP instrument for polarization measurements of the Cosmic Microwave Background.
5	PIZZARDO MICHELE	The cosmic large-scale structure as a test for fundamental physics.
6	PASTORE MAURO	Studio delle proprietà di simmetria e confinamento in teoria di campo con il formalismo delle trasformazioni di Bogoliubov.
7	CHIGHIZOLA MATTEO	Investigation of mechanotransductive events: a novel experimental approach to unravel the cell-microenvironment interaction and cellular response to mechanical stimuli.
8	MIRIGLIANO MATTEO	Building memristors with clusters: a bottom-up strategy for the characterization of the non-linear electrical properties of cluster-assembled metallic films.
9	GHIRARDI LUCA	Few particle quantum walks in a classical noisy environment.

*Tuesday 12<sup>th</sup> September 2017- h. 14:00 pm - Sala Polvani*

N°	candidates	project title
1	BUFFONI LORENZO	Optimal Quantum Annealing.
2	BIANCHINI LINDA	Extraction of radiomic features from Magnetic Resonance images to support clinical decision.
3	GOSTA GIULIA	Isospin mixing: rottura della simmetria di isospin nel nucleo $60\text{Zn}$ a temperatura finita.

N°	candidates	project title
4	ROVELLI GIULIA	Search for dark matter at the Atlas experiment at LHC.
5	SAVORANA GIOVANNI	Nonequilibrium Casimir forces in colloidal suspensions.
6	MAMBRETTI FRANCESCO	Crystal or glass? Simulations of the ultimate fate of classical and quantum supercooled liquids.
7	FAEDO FEDERICO MICHELE	Hairy black hole nel contesto della gauged supergravity.
8	SPADARO NORELLA ELISABETTA	Search for exotic particles in B0s,d → J/ψp-nonp decays in LHCb experiment.
9	LAGHI DANNY	Observational evidences of Dark Matter and axions as a possible candidate.
10	BARBIERI CLAUDIO	Clustering Properties of Emission Line Galaxies.
11	FORELLO ALICE CORINA	A pilot study to assess individual non-exhaust traffic emissions in real-world conditions: a challenging problem faced coupling advanced experimental and modelling approaches.
12	MONTOLI ALESSANDRO	Probing neutron stars structure with relativistic pulsar glitch models.

**Wednesday 13<sup>th</sup> September 2017 - h. 9:00 am - Sala Polvani**

N°	candidates	project title
1	DI CARLO UGO NICCOLO	Unraveling the formation of star clusters: a science case for the E-ELT.
2	PARADISO SIMONE	Studio del modello cosmologico tramite le missioni Euclid e LiteBird.
3	FABBRICATORE RICCARDO	Dark Matter: particles or modified gravity.
4	LONGO PIERSILVIO	Development of a simulator for the chromatin dynamics.
5	PANZERI NICOLA	Fasci di elettroni accelerati al plasma per la generazione di eventi QED.
6	DE SIMONI MICOL	Development of an innovative technique for Range Monitoring in Particle Therapy.
7	BARTOLINI MATTEO	The muon as a probe of physics beyond Standard Model.
8	NEGRI MATTEO	Ruolo del disordine nella stabilizzazione dei domini spaziali di modelli polimerici di cromosomi.
9	VANJUR LUKA	Translocation dynamics of artificially designed DNA conformations and DNA-protein complexes in solid state nanopore.

**Wednesday 13<sup>th</sup> September 2017 - h. 14:00 am - Sala Polvani**

N°	candidates	project title
1	BAGNATO FILIPPO	Mappatura dell'emissione di elettroni "runaways" nel Tokamak FTU attraverso l'uso di sonde Cherenkov.
2	SIMONETTO FEDERICA	Studio del danno da radiazione ionizzante sulle proprietà ottiche di vetri: applicazione alla qualificazione di vetri per lo spazio.
3	COLOMBO ERIKA	Looking for a microscopic explanation for Bekenstein Hawking entropy.
4	MEGIER ELIAS ARAWI SOL	Further enquiries into Yang-Mills gravity.
5	VERONESI BENEDETTA MARIA AUGUSTA	Exploring protoplanetary discs and searching for the origin of spiral structures: young proto-planets or gravitational instabilities?
6	MELI ANDREA	Development of a quantitative method for estimating local human skin damages by Magnetic Resonance Imaging.
7	TOGNAZZI ANDREA	Ultrafast quantum coherent phenomena in transition-metal-oxide heterostructures.

**Thursday 14<sup>th</sup> September 2017 - h. 9:00 am - (Italy Time Zone) Skype Interviews**

N°	candidates	project title
1	MOUSAVI SAVADKOUHI NASIM ALSADAT	Produced activity calculation of the positron emitters and dose assessment in critical issues in brain proton therapy by Monte Carlo method.
2	GAIJAN MRUNALI	Black holes in Supergravity and String Theory.
3	ALY MOHAMMED	MTJ Based on Perpendicular magnetic anisotropy materials used in Spintronic Devices.
4	ELHABBASH MOHAMMED	Investigation and simulation the use of multilayer structures with conducting interfaces as a particle detector.
5	KUMAR MANJEET	Theory of nano/mesoscale friction.

The oral examination consists of an interview to evaluate the candidate's scientific background, ability and aptitude for scientific research. Every candidate will be invited to present on a whiteboard the submitted Research Project in no more than 12 minutes. If necessary, paper copies of diagrams and/or images contained in the Research Project could be used by the candidate as a reference. During the oral examination, the candidate will have to focus on the scientific field related to the research project and on his/her own role in the proposal. The presentation will be followed by some questions by the Committee. The candidate can choose to have the interview either in Italian or in English.

The President of the Committee  
Prof. Carlo Pagani