SCIENTIFIC DISCIPLINARY AREA: MATHEMATICS AND INFORMATICS

RESEARCH PROGRAM NO. 1

The assessment criteria for the qualifications and the interview will be affixed on **26.5.2016** at **10.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on **26.5.2016** at **13.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

The interview will be held on **27.5.2016** at **14.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.

As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Michele Piana on the phone number +39 010 353 6939 or via the email address piana@dima.unige.it

Scientific coordinator: Prof Michele Piana

NO.1 research fellowship - Duration: 1 year – Annual pre-tax amount: € 19.367,00

Title: Image reconstruction in X-ray solar astronomy.

Description: The project is concerned with the formulation of computational methods for image reconstruction in X-ray solar astronomy. The hardware devices in this framewrok provide sparse sampling of the Fourier transform of the incoming radiation. Therefore, the research activity will deal with the development of techniques for the inversion of the Fourier transform from limited data. The validation of such methods will utilize synthetic data obtained by simulating the process of data formation in the case of the ESA telescope STIX in Solar Orbiter and with real data recorded by the NASA telescope RHESSI.

Scientific disciplinary sector: MAT/08 NUMERICAL ANALYSIS
Place: Dipartimento di Matematica (DIMA)

Required degree:
Dottorato di ricerca in Matematica o in Fisica o in Informatica

Subjects of the interview:
Computational methods for image reconstruction in X-ray solar astronomy.
The candidate will need to prove his/her knowledge of the English language.

RESEARCH PROGRAM NO. 2

The assessment criteria for the qualifications and the interview will be affixed on **26.5.2016** at **11.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on **26.5.2016** at **14.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

The interview will be held on **27.5.2016** at **17.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova

Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.

As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Michele Piana on the phone number +39 010 353 6939 or via the email address piana@dima.unige.it

Scientific coordinator: Prof Michele Piana

NO.1 research fellowship - Duration: 1 year – Annual pre-tax amount: € 19.367,00

Title: Machine learning techniques for modeling educational data.

Description: The main objective of this project is the application of supervised and unsupervised machine learning techniques for the university dropout prediction. The project will be developed according to two perspectives: first, from a computational viewpoint, novel classification and prediction methods will be proposed, formulated 'ad hoc' for educational data; second, from an application viewpoint, these methods will be validated against school and university data at disposal from both regional and national databases.

Scientific disciplinary sector: MAT/08 NUMERICAL ANALYSIS
Place: Dipartimento di Matematica (DIMA)

Required degree:
Dottorato di ricerca in Matematica o in Fisica o in Informatica

Subjects of the interview:
Knowledge of supervised and unsupervised machine learning techniques.

The candidate will need to prove his/her knowledge of the English language.