



UNIVERSITÀ DEGLI STUDI
DELL'INSUBRIA

DIPARTIMENTO DI SCIENZE
TEORICHE E APPLICATE -
DiSTA
Il Direttore

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Object: Selection procedure for a postdoctoral research grant in the Disciplinary Scientific Group 09/IINF-05 - Information Processing Systems

THE DIRECTOR OF THE DEPARTMENT

- Given article no. 22 of the Law no. 240 of 30 December 2010, on research grants;
- Given the Decree of the Ministry for Education, University and Research no. 102 of 9 March 2011, which establishes the minimum gross annual amount for research grants;
- Given the Regulations for the Assignment of Research Grants (hereafter the Regulations) issued by Rectoral Decree no. 903 of 24 July 2013, latest amendments issued by Rectoral Decree no. 347 of 28 April 2021, effective as of 14 May 2021;
- Given the Decree of the Ministry for Education, University and Research, n. 639/2024 determining scientific-disciplinary groups and their declarations, as well as the rationalization and updating of scientific-disciplinary fields and the reconciliation of the latter to scientific-disciplinary groups pursuant to art. 15 Law 30th December 2010 n. 240;
- Recalling Rectoral Decree of 26 January 2024, rep. 67, which issued the announcement "Proposals for funding of 30 annual post-doctoral University research grants for 2024;
- Recalling Rectoral Decree of 6 May 2024, rep. 455 which issued the list of eligible research projects financed by the University, as part of the selection procedure for no. 30 postdoctoral research grants for 2024;



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- Recalling Rector Decree of 31 May 2024, n. 586 which professors and researchers are classified into scientific-disciplinary groups and scientific-disciplinary fields;
- Considering that the project presented by PhD Alessandra Rizzardi was among those eligible and financed by the University for the assignment of no. 1 postdoctoral research grant, entitled: "SDN Cyber-Gym: Towards an open-source cyber ranch with a Gymnasium-like inter-face for Deep Reinforcement Learning cybersecurity applications", with a duration of 1 year, whose research activity is to be carried out in the Department of Theoretical and Applied Sciences;
- Ensured that the amount of the grant referred to in this call is financially covered by the University funds

DECREES

Art. 1 - Object

A selection procedure by qualifications is hereby opened for the assignment of n. 1 postdoctoral research grant with a duration of 1 year for the Disciplinary Scientific Group 09/IINF-05 - Information Processing Systems.

Title of the research: **"SDN Cyber-Gym: Towards an open-source cyber ranch with a Gymnasium-like inter-face for Deep Reinforcement Learning cybersecurity applications"**.

Research Project:

"The research community focused on Artificial Intelligence-based Network Intrusion Detection (AI-based NID) has an important challenge: a safe-exploration environment to train the online-learning models. Without a realistic sandbox, Deep Reinforcement Learning (DRL) models may be impossible to train. Data inefficiency and computational costs are well-known features of DRL which make them difficult to develop inside an offline trace-based basis. Traditional network scenarios where the control plane and data plane are tightly coupled may limit the potentialities of network control that DRL agents can learn to manage. Hence, this project aims to deliver an open-source cyber-ranch which is compatible with Software Defined Networking and Gymnasium (formerly Gym) interfaces for standardized DRL development. The goal is to develop a DRL safe-exploration sandbox that





realistically supports the entrance of Machine Learning (ML) practitioners into the field of online-learning NID systems.

The research will be carried out in the Department of Theoretical and Applied Sciences of the University of Insubria.
Responsible Scientists: PhD Alessandra Rizzardi.

Art. 2 - General requirements

All those who have obtained a:

- **Bachelor's degree in Computer Science or Information Engineering or Telecommunication Engineering, of not less than 5 years' duration, obtained under the educational system prior to Ministerial Decree n 509/1999, as amended;**
- **Master's Degree in Computer Science or in Information Engineering or in Telecommunications Engineering, obtained in accordance with Ministerial Decree No. 509/1999, as amended and supplemented;**
- **Master's degree in Computer Science, or in Computer Science Security, or in Computer Engineering or in Telecommunication Engineering, obtained pursuant to M.D. 270/2004.**

and who have an appropriate scientific-professional curriculum to carry out research activities established by this competition notice can participate in this public selection.

The possession of the **PhD title Research** in Computer Science or Computer Engineering or Telecommunications Engineering **is mandatory requirement for admission to the selection.**

Candidates must have no criminal record.

Applicants in possession of degrees earned abroad, who have not obtained the declaration of equivalence, must enclose in the application form a translation into Italian and a declaration of value of the foreign degree by a qualified Italian Diplomatic or Consular Representative in the country of origin, according to the current Laws on the subject.





The degree earned abroad can be declared admissible by the Judging Commission, only for purposes related to the selection.

Qualifications must be possessed on the expiration date established for the submission of the application form.

Those who have already received grants according to law n. 240 of 30 December 2010 for more than 6 years, except for the period corresponding to a PhD without scholarship within the maximum limit of the legal duration of the related course, cannot participate in the selection. For the purpose of the duration of the grant, periods spent on maternity or sick leave are not relevant according to the current regulations.

Art. 3 - Incompatibility

Personnel employed in Universities and in other public institutions can participate in the selection procedure, as of article no. 22, paragraph 1 of the Law no. 240 of 30 December 2010, but must resign should they obtain the research grant.

Civil Servants from different institutions from those mentioned in the paragraph above can receive the research grant, but must be placed on unpaid leave for the duration of the research grant.

The research grant is not compatible with enrolment in undergraduate courses, graduate courses, PhD courses with scholarship or medical specialization schools, in Italy or abroad, and with enrolment in other Schools/Courses which require mandatory attendance and prevent carrying out the activities established in the contract.

Relatives and in-laws within and including the fourth degree of a professor who is a member of the Department or the Structure which requested the Research Grant, or of the Rector, Director General or of a member of the University's Board of Directors cannot participate in the selection procedure for the assignment of a research grant.

The research grant cannot be cumulated with other kinds of granted scholarships, with the exception of those awarded by national or foreign institutions to aid, with periods of study abroad, the education of the Research Fellows. The research grant cannot be cumulated with subordinate work, with contracts of collaboration or with income deriving from freelance activities conducted in a continuous way.





Art. 4 - Application and deadlines

The application for participation in the selection, as well as qualifications held, the do-documents and publications voted helpful for the competition **must be submitted, under penalty of exclusion, via computer**, using the computer application dedicated to page: <https://pica.cineca.it/uninsubria/dista2024-adr004>.

The computer application will necessarily require the possession of an e-mail address in order to perform the self-registration system. The candidate will have to enter all data required for the production of the application and attach the documents in PDF format. You can attach a maximum of n. 30 documents for publications and n. 30 documents for other qualifications to evaluate, and maximum 30 Mb size.

The application form must be completed in all its parts, as indicated in the electronic procedure, and must include:

- Curriculum of the scientific and professional activities
- Copy of an identity document valid

No other forms of submission of applications or useful documentation for participation in the procedure are allowed.

Within the application deadline, the system can be saved in draft mode. The date of electronic submission of the request for participation in the selection is certified by the computer system that will be received by automatically sent via e-mail.

At the end of the period for submission, the system will no longer allow access and sending the electronic form.

To every application will be assigned an identification number which, together with the competition code in your application information must be specified for any subsequent communication. The process of compiling and submitting electronic applications must be completed **no later than 30 September 2024, 12:00 pm.**

The presentation of the application form must be completed and concluded as follows:

- **Sign your document with ConFirma**

In order to sign digitally the application it is necessary to have an hardware (e.g. smart card or USB with digital signature certificate issued by an approved certification





body) compatible with ConFirma service. After signing, applicants can download the signed pdf application.

- **Sign the application digitally on your electronic device**

In order to sign digitally the application it is necessary to have a hardware (e.g. smart card or USB with digital signature certificate issued by an approved certification body) and a software for digital signatures in order to create a pdf.p7m file from the pdf file downloaded from this site. The pdf.p7m file must be uploaded in the website again.

- **Sign the application (no digital signature)**

If you can't sign the document digitally as specified in the other sections you need to download the pdf file of the application, print it, sign it in original, scan it in a pdf file and upload it again on the website.

WATCH OUT: the copy of a valid identity document must be included as the last page of the scanned pdf, after the application form pages (this step can be dispensed with if a copy of the document was uploaded as an attachment of the application form)

They will be declared inadmissible the applications without the signature of the candidate.

Foreign nationals residing in Italy can take advantage of self-certification above, limited to cases where it is necessary to prove conditions, facts and personal qualities certifiable by Italian public or private entities (art. 3 of Presidential Decree no. 445/2000).

Foreign nationals not resident in Italy cannot rely in any way on the institute of self (art. 3 of Presidential Decree no. 445/2000).

Bonds, certificates and publications produced in a manner different than indicated above will not be taken into account. In application of the rules of self-certification matter, the University will undertake verification of the veracity of substitutive declarations and self-certifications under Presidential Decree n. 445/2000.

It is considered validly made exclusively the documentation received by the final deadline indicated in the notice. It is not eligible for introduction into the evaluation insolvency of their qualifications earned or after the date of deadline of the notice.





It is not allowed to make reference to documents and publications previously submitted for participation in other contests by this or other Administrations.

Candidates must provide their own expenses to the restitution of securities and publications sent for participation in the selection, subject to agreements with the Department of Theoretical and Applied Sciences of the University of Insubria, Varese.

Art. 5 - Information on the implementation of legislation on the prevention of corruption

The University, in implementation of the legislation on the subject, adopted its three-year plan for the prevention of corruption and appointed the Head of the Prevention of Corruption.

The three-year plan is published on the corporate website at: <https://www.uninsubria.it/amministrazione-trasparente/disposizioni-general/piano-triennale-la-prevenzione-della-corruzione-e>

Any reports can be sent to: anticorruzione@uninsubria.it

Art. 6 - Selection Procedure

Selection is made with comparative evaluation of the candidates' CVs who have applied on the basis of qualifications and publications.

For the evaluation of the candidates commission has **70** points, of which:

- Scientific and professional curriculum: up to a maximum of **50** points;
- Scientific publications: up to a maximum of **20** points.

For inclusion in the final ranking candidates must have achieved an overall score of at least **42/70**.

QUALIFICATIONS (UP TO 50 POINTS)

1. PhD thesis maximum **10/70**
2. Previous research activity (contracts, scholarships, work assignments, certificates ect.) maximum **40/70**





PUBLICATIONS (UP TO **20** POINTS)

Publications maximum **20/70**.

The final list is approved by the Director of the Department and will be posted on the official page of the Register of the University and on the website as notification to those concerned. The merit ranking will be used in the case of the winning candidate not accepting the position or in the case of resignation; in this case, the position will be offered to the next candidate in the ranking, provided that the period proposed for the contract is not less than one year.

Art. 7 - Exclusion

Candidates are admitted conditionally.

The following imply exclusion from the procedure:

- 1) the application sent by a method other than that indicated in Article 4 of the notice;
- 2) the failure to sign the application in the manner specified in Article 4 of the notice;
- 3) the lack of the participation requirements set forth in Article 2 of the notice;
- 4) the existence of situations of incompatibility.

Exclusion is provided for with a motivated decision of the Director of the Department and shall be communicated to the candidate using the e-mail address provided.

Art. 8 - Renouncing of the candidate for the procedure

Any waiver of the candidate to participate in the procedure will be sent as so-and exclusively on the web address shown above, Art. 4 of this announcement, by filling in the form of renunciation.

Art. 9 - Contract of collaboration





The winner will be called on to sign a temporary contract of research activity collaboration drawn up under civil law, within a period specified, otherwise he/she will lose the right.

This fixed-term contract does not represent, in any way, a permanent contract of employment and does not give right to be admitted to permanent positions within university. The University provides equal opportunities between men and women.

The grant implies carrying out the activities briefly mentioned below at the Department of Theoretical and Applied Sciences of the University of Insubria, under the supervision of Responsible Scientist Phd Alessandra Rizzardi within the research programme: "SDN Cyber-Gym: Towards an open-source cyber ranch with a Gymnasium-like inter-face for Deep Reinforcement Learning cybersecurity applications".

Conditions are indicated by the contract and governed by the Regulations.

The position will cover a period of 12 months and can be renewed for periods of not less than one year up to a maximum of six years total with the same subject, also entered into with different institutions and universities, excluding the period in which the fellowship was received in connection with a PhD without a grant, not exceeding the legal duration of the course.

The contracts referred to in Article 24 of Law 240/2010, intervening with various universities, government, non-state or telematic, as well as with the institutions referred to in paragraph 1 of art. 3 of this notice, may in no case exceed twelve years, even if not continuous. For the purposes of said contract the length of periods spent on maternity leave or for reasons of health, as provided by law are not considered.

Renewal is still subject to a positive assessment of activities by the Department Council, as well as to availability of budgetary funds.

For non-EC citizens the fellowship will start after obtaining the residence permit for scientific research and when the research activity actually begins.

Art. 10 - Recruitment and HRS4R





The recruitment of fixed-term researchers (or Established Researchers, using the European definition) will conform to the European Charter for Researchers (ECR), the Code of Conduct for the Recruitment of Researchers (CCRR) and the Code of Ethics, code of conduct and principles of research integrity of the University of Insubria, which provide the general framework for the guidelines and requisites for the roles, responsibilities and rights of these positions, thus guaranteeing that selections procedures are open, transparent and meritocratic.

The University of Insubria received the European Quality Award "HRS4R - Human Resources Strategy for Researchers" in February 2019: such certification recognizes organizations their efforts to implement the Charter and Code in their policies and practice, and identifies the universities and institutions which create and promote a stimulating and encouraging research environment.

Art. 11 - Remuneration

The total amount of the 12-month research grant is € 19.367,00 inclusive of the taxes which must be paid by the recipient.

The University will provide medical insurance and third-party civil liability.

The amount is tax free according to article no. 4 of the Law no. 476 of 13/08/1984 and is subject, on social security matters, to the regulations according to article no. 2, paragraph 26 and following amendments and additions, of the Law no. 335 of 8/08/1995.

The grant will be paid in monthly instalments.

Art. 12 - Suspension of the contract for maternity and sick leave

The research activity is suspended for maternity leave.

To such a case there apply the provisions of the Decree of the Ministry of Labor and Social Policies of 12/07/2007, published in the Official Journal no. 247 of 23/10/07. Sick leave is regulated by article no. 1, paragraph 788 of the Law no. 296 of 27/12/2006 and following amendments and additions.





During the period of mandatory maternity leave, the amount paid by the National Institute for Social Security (INPS), according to article no. 5 of the abovementioned Decree of 12/07/2007, will be integrated by the University to match the total amount of the research grant.

The period of mandatory maternity leave must be made up for after the natural expiration of the contract, as provided by the law, upon decision of the Director of the Department.

Art. 13 - Termination by the recipient of the research grant

The recipient has the right to terminate the relationship, by notifying the Director of the Department with a notice of at least thirty days.

Failure to notify will entail withholding remuneration for a sum related to the period of failed notice.

Art. 14 - Termination of the contract

Should the Research Fellow not continue the activities provided for in the research program without justification or in case of serious and repeated shortcomings, the contract may be terminated upon reasoned request of the research Coordinator, authorized by a resolution of the Department's Board.

The contract is automatically terminated, without prior notice, in the following cases:

- undue failure to commence or undue delay of the activity;
- undue suspension of the activity for a period exceeding 15 days;
- serious infringement of incompatibility, according to article no. 25 of the Regulations.
- negative assessment of the research activity on the part of the Department's Board.

The termination provisions are ordered by the Director of the Department.

Art. 15 - PhD and Master's Degrees

The recipient of the research grant can attend, also in excess and without scholarship, PhD courses, provided that they pass admission tests.





The participation of the recipients of research grants in Master's degrees is incompatible.

Art. 16 - Administrative proceedings

According to Law n. 241 dated 7/08/1990, the Department of Theoretical and Applied Sciences, Via J.H. Dunant, 3 - 21100 Varese (VA), e-mail: segreteria.dista@uninsubria.it in charge of the competition notice.

Art. 17 - Processing of personal data

In applying the Legislative Decree no. 196/2003, the University undertakes to respect the confidential nature of the information provided by the candidate. All data provided will be handled only for purposes connected to the selection procedure and to the management of the collaboration relationship, with respect to the current regulations as provided for in the attached document.

Art. 18 - Final regulations and publication

For matters not provided for in this call, please refer to the applicable laws and regulations on the subject.
This call will be published on the University's official online Board and on the "Calls" page of the University, of the Ministry of Education, University and Research and of the European Union websites.

Varese, date of digital signature

The Director of the Department
Prof. Mauro Ferrari
Digitally signed

