

Milano, 6 FEB. 2020 prot. n. 17660
[Cod. riferimento: C3 1°L]

COMPETITION FOR THE CONFERRAL OF 1 RESEARCH CONTRACT FOR THE SECTOR OF 13/A1 ECONOMICS AT THE CENTER IGIER OF UNIVERSITA' COMMERCIALE "LUIGI BOCCONI" OF MILAN PROJECT PRIN 2017 (CUP J44I19001450001)

Article. 1

To further the education and improvement of junior scholars, the Università Commerciale "Luigi Bocconi" of Milan, announces a competition by exams and academic titles for the conferral, by means of an appropriate contract, according to art. 22 of Law 240/2010, of 1 research contract with the following characteristics:

Duration: **ONE YEAR (renewable up to a maximum of 22 additional months)**

Sector: 13/A1 ECONOMICS

(Scientific Sector SECS-P/01 Economics)

In the Center IGIER

Project: PRIN 2017 (CUP: J44I19001450001)

Title: "The impact of the diffusion of algorithms on prices in online marketplaces: Efficiency or Collusion?"

Professor of referral: **prof. Francesco DECAROLIS**

Research Project: This project consists of an organic set of studies investigating the impact of the diffusion of computer algorithms on prices in online marketplaces. One component focuses on the market for online advertisement. It analyzes both theoretically and empirically the effects of automated bidding by specialized intermediaries on the revenues and efficiency of the auction systems used by search engines (like Google or Microsoft Bing) to sell ad space. In particular it explores how the increasing trend toward delegation of all bidding activities to these intermediaries might induce an outcome equivalent to collusive bidding whenever the same algorithm (jointly) optimizes the profits of competing advertisers. The second component looks more in depth at how pricing algorithms engineered with tools from the artificial intelligence field can learn to collude based solely on profit maximization goals and without any explicit attempt by their programmers to induce a collusive outcome. It studies, from both a theoretical and an experimental point of view, how pricing algorithms may autonomously coordinate on high prices, if collusion among algorithms is easier to sustain than among humans and what are the ensuing implications

for competition policy.

To achieve the project's goals, a series of activities will be required, the most important of which are:

- Data collection and organization. Various kinds of data will need to be assembled from different sources, including from web scraping via Python.
- The use of both standard econometric techniques and of machine learning methods (both supervised and unsupervised) will be employed to analyze the data (through Python, Stata e R).

- The programming of bidding algorithms using artificial intelligence (Q-learning and similar) will be used to construct simulation exercises.

Article. 2 ***Admission Requirements***

In order to participate in the competition, the candidate must have, as a preferred qualification, the possession of a PhD or equivalent, carried out in Italy or abroad, or in the course of being conferred.

Relations (up to the fourth degree of kinship) to any professor in the University Council, the University Rector, the Director General or any members of the University Board are not allowed to apply.

Conferral of the research contract is incompatible with any form of employment or any simultaneous use of PhD grants, specialist schools or post-doctorate contracts in Italy or abroad and if the candidate is a public employee, they must take unpaid leave.

If the candidate has benefitted from any previous contracts or scholarships with any university, they cannot exceed a total of twelve years. Time off for maternity or health reasons is not counted as part of the twelve years.

These statutory pre-requisites must be in place at the deadline for the presentation of applications determined by the present announcement.

Candidates may obtain a conditional acceptance. At any time, the administration can arrange, with reason, exclusion from the selection procedure due to the lack of necessary pre-requisites.

Article. 3 ***Applications***

Applications, completed according to the attached form, addressed to the Rector of Bocconi University, must reach the "Faculty and Staff Administration" office via e-mail before **12 noon of 6 March 2020** to recruiting-adr@unibocconi.it

Each candidate's application must clearly indicate:

- surname and name
- date and place of birth
- fiscal code (codice fiscale) (if available)
- citizenship
- residence
- contact address
- educational qualifications (degree and PhD)

The application must include the following documents, which must be attached to the application and sent exclusively via e-mail:

- degree certificate (3-year degree and Masters degree), in pdf format;
- PhD certificate or equivalent obtained in Italy or abroad, in pdf format (if available);
- Professional C.V., in pdf format;
- A list of titles and publications in pdf format;
- any certificate or document proving your scientific preparation in your chosen field, which the candidate intends to submit for evaluation, in pdf format:

Conferral of the research contract is compatible with any form of occasional work but incompatible with any simultaneous use of PhD grants, specialist schools or post-doctorate contracts.

If the candidate covers any other posts, the candidate must attach a declaration specifying the type of activity undertaken, duration and the university in which they carried out their research and the commitment to give up the employment if conferred the contract due to incompatibility.

Finally, if the candidate has benefitted from any previous contracts or scholarships with any university, they must attach a declaration explaining the time period, length and University where they benefitted from the contract.

Article. 4 ***Judging Committee***

The Judging Committee of the current competition, named by the Rector, is made up of three tenured professors who will remain for two years in their role.

The competition will be carried out by an evaluation of titles and examination, by means of an interview.

The Committee can allocate a maximum of 100 points for each candidate:

- 30 points for the evaluation of CV and academic titles;
- 30 points for the evaluation of scientific publications presented;
- 40 points for the evaluation by interview

In order to be admitted to be evaluated by interview, candidates must first achieve a minimum of 40/100 points in the evaluation of titles, publications. The points given for titles will be communicated to the candidates before the interviews are carried out.

Candidates will be informed of the interview date by e-mail, with adequate advance notice. The interview can also be carried out via *conference call*. There is also the possibility that an interview can be carried out in a room at the University with advance notice of at least 7 days. The interview will be open to the public.

At the end of the assessment, the Committee formulates a final judgement for each candidate and creates a ranking in descending order on the basis of the score obtained, thereby assigning research contracts to winning candidates.

The Committee may appoint suitable candidates who can take over in the event of withdrawal/renunciation of the winner.

Each winning candidate will receive a written communication, via e-mail with the contract that should be duly signed, before the deadline of 15 days after receiving the letter.

The contract cannot be divided. If for any reason the candidate stops receiving the contract, they cannot be substituted by other candidates who have not won a contract.

Article.5
Rights and Duties of the Contract Winner

The contract will indicatively run from **1st April 2020**.

Conferral of the contract implies a commitment to undertake research, study and preparation of research for at least four days a week.

The normal obligations of the research include:

- Research activity as part of the Research Project presented, as well as additional programs elaborated by the Center, supervised by the *Professor of referral*, who will check the activity carried out;

All other work, for the University or externally, undertaken outside of the four days in the University, should not conflict with that of the researcher at Bocconi University. A judgment of these circumstances will be decided by the Center Director, having consulted the professor of referral.

Such circumstances will lead to the ending of the assignment of the contract.

The conferral of the research contract does not constitute an employment contract and does not confer any rights to teaching roles within the University.

Article.6
Economic Compensation

The amount of the research contract is **€ 39.600,00 gross per annum**.

The amount is excluded from "Irpef tax" (income tax).

The University will provide insurance for risks of injury and civil responsibility.

The payment of the contract will be made monthly post-dated, following presentation before the tenth day of each month, of a payment note, signed by the *Professor of Referral* with the scope of checking the activity undertaken.

Article.7
Causes of deferral or suspension of the contract

If a candidate is on maternity leave, minimal payments will be made by INPS (national insurance) and a top-up payment will be made by Bocconi University up to the monthly amount of the contract.

Article. 8
Stays Abroad

Stays abroad, for study reasons, should be approved by the Rector beforehand, by means of a formal assessment by the Center Director, having conferred with the *Professor of referral*.

Article. 9
Certificate of the activity carried out

At the end of the contract, the beneficiary has the right to ask for a certificate from the part of the *Professor of Referral*, stating the scientific activity carried out during their time in Bocconi as a researcher.

Article. 10
Treatment of Personal Data

According to a General Data Protection Regulation n. 679/2016 all personal data supplied by candidates to the Faculty and Staff Administration, both in electronic and paper format, is exclusively for evaluation purposes and to publicize the acts related to the current evaluation procedure and the conferral of an Research Contract position as detailed in this announcement.

Article. 11
Advertising

The announcement of the competition for assigning the research contracts is advertised on the Bocconi University website, as well as the Italian Ministry and European Union sites. Università Bocconi can also publish this announcement on the main international job opening websites for this scientific sector. Copy of this advert is available from the Faculty and Staff Administration.

This announcement is published in English. In case of divergences between Italian and English text, the Italian version will be considered definitive

FACULTY AND STAFF ADMINISTRATION
(dott. Marcello Valtolina)



ATTACHMENT A
Application Form

Al Magnifico Rettore
dell'Università Commerciale "Luigi Bocconi"
Via Sarfatti 25
20136 MILANO

I, the undersigned (Surname) (Name) born in
.....on (DoB) resident in
..... (postcode.) Road
..... house number
tel. mobile phone
e-mail.....

ASKS

to be admitted for selection, by means of titles and exam, competition number 17060 date 6.2.20
[Cod. referral:C3 1°L] for the assignment of **1 research contract for one year**, for research activity and
teaching in the Sector of 13/A1 ECONOMICS for the Center IGIER, Project PRIN 2017 (CUP
J44I19001450001)

To this end, I declare:

- a) to be a citizen of
- b) to have my current address in postcode., road....., number., Tel., I commit to communicate promptly any changes to my address
- c) to have a degree infrom the University....., conferred on (date).....with a grade of.....
- d) to have a PhD in.....in date.....conferred on (date).....from University.....(if present);
- e) to be in the possession of other titles;
- f) to have previously received / not received a contract fromuniversity fromto.....;
- g) Fiscal Code (if available)
- h) to commit to not have any other contracts or fellowships;
- i) to not cover any other positions, or if so, to give up these positions if assigned a contract.

I, the undersigned, attach to my application:

- 1) a scientific, professional curriculum vitae;
- 2) publications in pdf;
- 3) any other titles in my possession, which may be useful to demonstrate my qualifications:

Date

Signature

N.B.: documents and titles must be presented in pdf format. Completing this form, the candidate declares that any documents produced are exact copies of the original. Any false declarations will be punished by Law.

Date

Signature

PRIVACY

European General Data Protection Regulation

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC..

Please read the Privacy Policy at: <https://www.unibocconi.it/privacy>

Noting that my data will be processed in full compliance with the law, I declare, by submitting the present form, that I have read and understood the privacy policy:

Yes No

By sending this form, I authorize to handle my personal information for the purpose of:

Promotion/advertising* Accept Do not accept
Sensitive Data ** Accept Do not accept
International Data transfer*** Accept Do not accept

To complete the submission of the form, the expression of your preference is required

* Consent necessary for receiving communications, notices and invitations regarding events, initiatives, services and programs, also in support of the University and also regarding the promotion of educational and research initiatives, including possible profiling activities.

** Consent necessary to allow the University to process data related to special situations and to provide all related services (i.e. health information, political opinion, membership in political students groups, etc. will be processed only for purposes that are permitted by law and for the Institutional aims of the University exclusively).

*** Consent necessary to perform Institutional activities of teaching and research in international contexts. In the absence of such consent, it would not be possible to benefit of the international opportunities offered by the University.

If you need any information or have any queries, feel free to contact our DPO - Data Protection Officer, write to dpo@unibocconi.it

Date

Signature