Università Ca'Foscari Venezia
Dipartimento di Scienze Ambientali, Informatica e Statistica

Dipartimento di Scienze Ambientali, Informatica e Statistica
Università Ca' Foscari Venezia
Campus Scientifico – Via Torino 155, 30170 Mestre (VE)
P.IVA 00816350276 - CF 80007720271
www.unive.it/dais

Research fellowship REGINDEX (B): Compressed Indexes for Regular Languages with Applications to Computational Pan-genomics **- Università Ca' Foscari Venezia (Italian law 30 December 2010, n.240, art. 22)**

The present document in English is to be considered as a mere summary of the main provisions of the notice of competition which is available in Italian at the following ([link](#)). The text in Italian is the official text of the notice of competition for all legal intents and purposes and, in the event of non-conformity with the present document, it shall prevail.

Description

The Department of Environmental Sciences, Informatics and Statistics at Università Ca' Foscari Venezia invites applications for fellowship in:

TITLE: REGINDEX (B): Compressed Indexes for Regular Languages with Applications to Computational Pan-genomics

SSD: INF/01

Tutor: Prof. Nicola Prezza

Duration: 12 months with the possibility to extend the contract yearly for at most 24 additional months

Abstract: The goal of the research is to develop new algorithms and data structures for compressing labeled graphs. In detail, the research will focus on the technique introduced in publication number 1 (Nicola Cotumaccio, Nicola Prezza. "On indexing and compressing finite automata", SODA 2021), based on the concept of co-lexicographic ordering of a finite-state automaton. The main objective of the research is to use this framework to extend to labeled graphs and automata compression techniques such as the run-length Burrows- Ultima modifica 16 Aprile 2020 3 Wheeler transform, the r-index (publication number 3) , and string attractors (publication number 4).

The research can be carried out in English. The fellowship is intended to provide the successful candidate with the opportunity to pursue his/her own research, within the scope of the research project REGINDEX, while benefiting from the range of expertise at Università Ca' Foscari Venezia.

Who can apply

Master's degree in Computer Science or Mathematics or equivalent title obtained abroad. Scientific curriculum demonstrating experience with the research area

Ca' Foscari encourages applications from researchers with positive evaluation in all the criteria in individual proposals such as Marie Skłodowska Curie Actions - Individual Fellowships/ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) or similar.
Researchers having successfully completed Marie Skłodowska Curie Actions - Individual

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Fellowships/ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) or similar funded projects are warmly encouraged to apply.

Duration of contract: 12 months, approximately starting: **September 2022**
Stipend: The research fellowship **amounts to** 34.354,44 **Euros per year**, including taxes and social charges.

Deadline for submission of applications: Jul. 21, 2022, at 12.00 noon.

How to apply:

Candidates should submit:
1. The application form;
2. A motivation letter (max 1 page) along with their CV in European format, duly dated and signed, both to enclosed as a one single.pdf file. (link)
3. A copy of a valid identity document (either Identity Card or Passport);
4. (If available) Evaluation Summary Reports of Marie Skłodowska Curie Actions - Individual Fellowships/ ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) individual proposals having passed all the evaluation thresholds;
5. (If available) Details of Marie Skłodowska Curie Actions - Individual Fellowships, ERC Starting Grants, FIRB (Italian Fund for basic research investments)/ SIR Scientific Young Independence Research funded projects;
6. All documents, qualifications and publications relevant for the selection procedure (please, see the notice link).

All the schemes of the quoted documentation are available on the website (link).
The form for declaring the availability to carry out the interview remotely which can be found at this link www.unive.it/moduli-assegni and must be sent via email to segreteria.dais@unive.it with the object: REGINDEX (B): Compressed Indexes for Regular Languages with Applications to Computational Pan-genomics - Prof. Nicola Prezza.

How to submit your application

Applications should be submitted by the online procedure, available on the notice webpage (link)

   Or submit here:
Link: https://apps.unive.it/domandeconcorso-en/accesso/dais2022regindex-b-prezza

The candidate, after the uploading, will receive a submission number and an e-mail acknowledging receipt of his/her application.
The candidate, if necessary, could access the procedures for updating any data and materials by the link provided by the e-mail, in any case any updates must be made no later than the deadline **Jul. 21, 2022 12.00 noon**.

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Please note that the University can be contacted for any support needs by the candidate until 24 hours prior to the deadline.

Please note that in case of a high number of applications and / or weight of the materials loaded by the candidates the system might become slower. Therefore, it is suggested not to start the process close to the deadline.

NB: The University does not take on responsibility for wrong or late communication of addresses, nor for any communication problem not depending on the University.

Evaluation

Up to 100 points, specifically:
For qualifications, publications and possible tests, from 0 to 60;
For interview, from 0 to 40.

Candidates are admitted to the interview if assessment of the qualifications in a score equal to or greater than 42/60

Selection procedure

Short-listed candidates will be invited for interview **on Aug. 02,2022 at 10.00 a.m. Italian time**.

The interview will be held in remote only. Further details on how to connect online will be published alongside the convocation notice.

The list of candidates admitted to the interview or any postponement will be announced on Aug**. 01, 2022** by notice that will be published on the website of this university (link) and on the web pages foreseen by current legislation.

This communication constitutes to all intents and purposes an official call and candidates will not receive any call or home communication. Therefore, candidates are required to present themselves, at the online interview, with a valid identification document, without prior notice, on the days and times indicated here. Any postponements will be made known on the day by means of a notice which will be published on the website of this university (link) and on the web pages envisaged by current legislation.

The interview:

The interview questions will cover:
- Algorithms and data structures, string algorithms
- Good knowledge of English

Information

The grant holder must express acceptance within 7 days from receiving the communication and must sign the relevant contract at the competent office. The grant holder must express acceptance within 7 days from receiving the communication and

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must sign the relevant contract at the competent office. The grant holder will be sign the relevant contract by affixing remote digital signature (https://www.agid.gov.it/it/piattaforme/firma-elettronica-qualificata/ottenere-firma-elettronica). In the impossibility of acquiring the digital signature remotely, it will be possible to proceed with the acquisition of the signature by correspondence (1) or in presence at the secretariat of The Department of Environmental Sciences, Informatics and Statistics.

(1) The contract will be considered completed and fully effective between the parties, after the acquisition of all the signatures and the repertory of the deed.

- The contractor must attach a photocopy of the identity card.

Information and contacts

Candidates may find further details about the application process and the research project in the official call published on the following (link)
For further information please contact Prof. Nicola Prezza - nicola.prezza@unive.it

Venice,

<div align="center">

The head of the Department of
Scienze Ambientali, Informatica e Statistica
Prof. Salvatore Orlando

Digitally signed

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