

*Guidelines for postdoctoral fellow's internship  
Project "The use of Big Data in Social Sciences"*

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Update April 30<sup>th</sup>, 2018: DEADLINE EXTENDED MAY 18<sup>TH</sup>, 2018

El Colegio de México is a public institution dedicated to research and higher education in social sciences and humanities, one of the most prestigious in the Hispanic world that has received several awards since its foundation in 1940 to the present.

To fulfill its purposes, El Colegio de México conducts research and teaching in the areas of specialty of the Study Centers that comprise it: History; Linguistics and Literature; International Studies; Asian and African Studies; Economics; Demographics, Urban and Environmental Studies; and, Sociology. It offers bachelor's, master's and doctoral degrees by specialty, as well as specialization and summer courses.

The availability of big data generated on the Internet opens a window of opportunity to conduct research on relevant social issues. The research agenda of El Colegio includes studies on welfare and social inequality, the interactions between the different areas where they are produced, as well as the political, economic demographic and institutional processes that shape them.

For this reason, El Colegio de México is opening an announcement for a postdoctoral fellowship. The objectives are varied. First, to promote research in social sciences and humanities at El Colegio incorporating the new information and methodologies related to big data. Second, foster collaborations among the Centers for the analysis of topics with an interdisciplinary approach. Third, to train students at El Colegio interested in the use of big data for their own research.

The project "The Use of Big Data for Social Science Research" aims to establish communicating vessels between individual and collective research on the subject, manage external financing to support them and generate public policy recommendations that allow us to insert our research and results into the public agenda both nationally and internationally.

### **Definition**

El Colegio postdoctoral fellows are PhD graduates accepted to participate full-time in El Colegio de México for a period of one year, with the option to renew, for a single occasion, depending on the evaluation of their performance.

### **Acceptance**

The selection of the postdoctoral fellows will be carried out through a public and open call. A selection committee integrated by academics from El Colegio will be responsible for the evaluation of the applications. The commission is integrated by the project coordinator, Raymundo Campos (Center for Economic Studies) and two professors linked to the project, Víctor García Guerrero (Center for Demographic, Urban and Environmental Studies) and Fernando Nieto (Center for International Studies).

### **Application process**

The announcement is open from March 20<sup>th</sup>, 2018 to May 18<sup>th</sup>, 2018. The following material should be sent by email to [presidencia@colmex.mx](mailto:presidencia@colmex.mx):

- Copy of the doctorate degree or proof that the applicant is in process of obtaining the doctorate degree.
- bachelor's degree and / or master's degree.
- An updated curriculum vitae.
- Work published or in process that is relevant to the subject of this announcement.
- Research statement, that is, a brief description of the achievements of your research, as well as the current and future research plans. The statement should include a description of your technical skills and areas of expertise (2 or 3 pages maximum).

There will also be an interview with applicants who meet the profile and the final decision will be communicated on June 4<sup>th</sup>, 2018. If necessary, the *ad hoc* committee reserves the prerogative to extend the deadline for publication of the final decision. In principle, the postdoctoral stay is expected to begin on July 1<sup>st</sup>, 2018. If it is not possible to start on that date, please specify in the cover letter.

### Desired profile

The project to be carried out will be in charge of Raymundo Campos, in collaboration with Aurora Ramírez, Fernando Nieto and Víctor García Guerrero. The project consists on exploring and conducting research on different areas of the Social Sciences with data generated on the internet. For example, some of the research lines are:

- (a) Studies of discrimination with information generated on the internet (job advertisements, Social Media such as Facebook, Twitter, among other sites).
- (b) Repository of acts of violence collected through newspapers on the Internet and Social Media.
- (c) Gender violence in Social Media.
- (d) Measure of corruption attitudes in Social Media, as well as Internet data collection related to corruption.
- (e) Use data from the Web and Social Media to study demographic processes, such as migration, fertility, health indicators, intergenerational relationships, and gender disparities.
- (f) Develop new ways of data collection for social science research (for example, surveys through advertisement platforms in the Web and Social Media or data collected through sensors, tracking devices, or web applications).

Therefore, an expert in Data Science, Computer Science, Statistics, Demography, Economics, Sociology, Geography, Applied Mathematics, or related disciplines is requested. It is required that the person is an expert in the extraction of data from the Internet (web scraping) and its organization in structured databases (including text analysis for presentation CSV format or text in defined columns). Likewise, advanced knowledge is required in data collection from Social Media, and in computational languages and statistical packages (e.g., R, Python, C++, Spark, Stata). Given that an important part of the work is also visualization of results, it is expected that the postdoctoral fellow can support these tasks. Therefore, basic knowledge or learning desires are requested in any of the following packages / languages: Tableau, D3, HTML5, or similar.

## Academic activities and expected products

### First year

- Work plan prepared jointly and approved by the academic commission, which includes research, teaching and academic management or institutional service.
- Public and open presentation to the community of their work report.

The postdoctoral fellow will develop the following activities/products:

#### 1. *Work plan*

- *Research products.* Develop at least two publications (preferably peer reviewed research papers), one of them in conjunction with at least one of the scholars involved in the project.
- *Academic management.* Participate in the processes of organization, dissemination and other tasks related to the activities of the project to which it is attached.
- *Teaching.* Preferably, she or he will only do teaching work at El Colegio during her / his first year.

- #### 2. *Public and open presentation to the community of El Colegio* of the results of research obtained, as well as a report of tasks that will be delivered to the *ad hoc* committee in charge of the evaluation.

### Second year

- Once the *ad hoc* committee approves the renewal of the postdoctoral candidate and his / her new work plan, the scholarship will be extended for up to one more year.
- Public and open presentation to the community of El Colegio of his / her research work developed, as well as a work report that will be delivered to the evaluation committee.

## Renewal

The postdoctoral fellow will present his/her research at El Colegio in an open seminar during the ninth month of its first year. For the evaluation, the postdoctoral fellow must present evidence of the activities committed in its work plan for the first year, the work plan for the second year, agreed with the project leader; In addition, he / she will hold an interview with the *ad hoc* committee.

After the evaluation session, the postdoctoral fellow will be notified about the result; if it is positive, its contract will be renewed to continue the project for a second year; otherwise, the contract will not be renewed. The decision of the *ad hoc* committee is final.

### Special clauses

1. The postdoctoral fellow must act with ethics and honesty in the development of their activities, adhering to the legislation and the ethical principles of El Colegio.
2. The postdoctoral fellow must preserve confidentiality in relation to the projects, programs and processes in which he / she participates in the institution.
3. The postdoctoral fellow will have a monthly stipend and must sign a clause guaranteeing their full-time dedication to El Colegio's project.
4. The postdoctoral fellow can only carry out curricular activities outside of El Colegio (seminars, congresses, lectures and other academic projects) if he / she justifies in writing the relevance of these activities for the development of his / her research project and has the written approval from the person responsible for the project associated with the postdoctoral fellowship.

### Terms

- Monthly grant of 26,000 Mexican pesos (around 1,350 dollars according to the exchange rate on May 3<sup>rd</sup>, 2018).
- Medical insurance.
- Access to cafeteria, library, computer and Digital Education Programme services, among others.
- Workspace