



Junior Professorship F/H Statistics, Data Science and Public Health

Type of contract: 3 to 6-year fixed-term contract, followed by potential integration as Inria research director

Renewable contract: No

Level of diploma required: PhD

Function: Research and teaching

Level of experience required: 6 years minimum

Salary: according to experience

About the Inria center

The Inria center at the University of Rennes is one of nine Inria centers, with some thirty research teams. The Inria center is a major and recognized player in the field of digital sciences. It is at the heart of a rich ecosystem of research and training: the University of Rennes, in conjunction with the schools and research organizations on the site, has a common ambition around major federating projects: cybersecurity, artificial intelligence, environmental transition... The center has been given the task of developing multidisciplinary research by creating joint research teams between the institutions on the site at the frontier between digital and another discipline. Public health being one of Rennes' strong points, with the presence of the EHESP – School of Higher Studies in Public Health, and a research unit such as IRSET – Research Institute in Environmental and Occupational Health, the Inria center plans to develop its digital research activities in relation to public health.

Background of the position

All the environmental exposures to which we are subjected have a significant influence on our health, and contribute to the onset or aggravation of various pathologies. Our knowledge of the impact of these environmental factors on our health remains limited, not least because their study requires a multidisciplinary approach. Data from certain cohorts (Gazel or Constances), for which links with the SDNS – National System for Health Data - already exist, public statistics data, environmental data (linked with Green data for health), and "omics" data generated by IRSET studies (metabolomics, exposure data, imaging data or signals for health outcomes) all provide material to improve our knowledge, but require the development of dedicated statistical methodologies. A wide range of approaches to the study of massive, heterogeneous data will be considered, including causal inference, with a focus on machine learning, high-dimensional statistics, data fusion and transportability methods, natural language processing, evolutionary statistical inference for megadata, integrative data analysis and pattern mining. Ultimately, this multidisciplinary effort will provide the information needed to propose better-targeted public health policies for the benefit of the population.

Objectives of the position

The person recruited will be responsible for developing original research into the mathematical tools and methods needed to exploit large-scale health and environmental databases. In addition, he/she will be responsible for creating a dynamic around this subject, with the aim of setting up a project-team in data science applied to public health within 6 years. To achieve this, she will be able to call on colleagues from IRSET, the RSMS unit and EHSEP on the public health side, and from IRMAR and IRISA on the data science side. New recruitments will be possible.

General Information

- Location: Rennes
- Inria center at University of Rennes
- Starting date: from Sept 1st 2024
- Contract duration: 3 to 6 years
- Deadline for application:

Contacts

- Inria Dept: direction
- Recruiter: Patrick Gros
dir-rba@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

The keys to success

- A taste for multidisciplinary research and dialogue between scientific disciplines
- A solid background in mathematical research and an interest in public health and environmental issues
- Team spirit
- Ability to work in project mode

From a teaching point of view, the person recruited will provide support to the teaching team of the Scientific Computing and Modeling Master's degree at the Mathematics Department, to meet the need for mathematical tools in data science and digital simulation applied to public health. Indeed, this master's program is undergoing major changes as part of the REDHI (Rennes Digital Health Initiative) project, with the creation of a master's program entitled "Digital simulation for health", which offers students with a good level of mathematics the opportunity to strengthen their profile in medical data science and health data management. This multidisciplinary training will not only facilitate future integration in a highly dynamic sector, but also train doctoral candidates in the field of mathematics applied to digital health. The recruited person will develop the digital aspects of the training program and help to create new synergies between the various players, both academic and industrial (work-study contracts, CIFRE thesis).

The digital health theme is a priority for the University of Rennes, and the REDHI project is an opportunity to federate the site in terms of teaching and research.

Main activities

- Conduct research in the field of data sciences applied to public health, disseminate results and ensure their impact on public health stakeholders;
- Supervision of students, post-docs and engineers. Setting up and participating in collaborative research contracts;
- Participate in the training of students in courses linking mathematics and health or engineering and health;
- Leading and creating links between players in the digital and public health fields, with the objective of setting up a new project-team on the subject.

Skills

KNOWLEDGE

- Scientific skills and level required: PhD in mathematics, applied mathematics or data science, followed by at least 6 years' research experience,
- Experience of working with public health or environmental data,
- Fluency in written and spoken scientific English.

KNOW-HOW

- Ability to develop a network of contacts and partnerships,
- Ability to work as part of a team or to lead a team,
- Ability to initiate, set up and manage projects.

How to apply

Online via the SELECT application. Please refer to our website www.inria.fr

No other method of application will be considered.

Defence Security:

This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorization to enter an area is granted by the director of the unit, following a favorable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavorable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy:

As part of its diversity policy, all Inria positions are accessible to people with disabilities.