

# CCSD – Data Science Impulse 2020-21

## General presentation

Created to promote interdisciplinary exchanges and collaboration around data management and processing, the Data Science Competence Center (CCSD) at the University of Geneva intends to lead, each year, a collective reflection on a particular theme.

This theme should promote significant scientific contributions to international research, while being cross-cutting enough to allow issues and disciplines to come together. For 2020-2021, the theme chosen by the Center is the **issue of epidemics and phenomena of diffusion, whatever they may be: viral spreads, fake news, cross-asset contagion, etc. and how data science is opening up new approaches to these phenomena.**

In this context, the **CCSD is launching the "Data Science Impulse" grant, intended to support the development of a project led by an interdisciplinary team of UNIGE researchers, on the theme of the year.** This impulse grant, in the amount of CHF 15,000, aims to support the maturation or consolidation of a project, with a view to its future submission to other Swiss or international research funding programs.

### Who is eligible for "Data Science Impulse"?

All researchers from the University of Geneva proposing a project related to data science and to the CCSD's annual theme are eligible for the "Data Science Impulse" grant. For 2020-2021, the project must be capable of developing an innovative scientific method and / or deepening and shedding light on a research question related to epidemic phenomena. It must also be supported by an interdisciplinary team made up of UNIGE researchers from different Faculties / departments / sections.

### Call opening and closing dates

The call for the "Data Science Impulse" will open following the CCSD launch session on 4 September 2020. It will be closed on 30 October 30 2020 at midnight.

### Contact

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In many ways, the COVID-19 epidemic underscored the importance of access to quality data and relevant models in the understanding and management of epidemics. Data science has provided decisive tools, for example establishing projections of infectious chains in given populations, or even adapting the structural response of hospital environments.

Far from being limited to the domain of health alone, the study of diffusion and transmission has long been carried out through research questions fed by many disciplines. This notably applies to the study of the dissemination of fake news in the social sciences, the scientific interest in the effects of cross-asset contagion in economic sciences, the analysis of the expansion of certain animal species in biotopes in the life sciences, the energy transmission between atoms in science, or the study of international circulation and phenomena related to diffusion of cultural goods in human sciences.

Certain advanced statistical and computer-based approaches and methods used to study epidemic phenomena are thus developed, discussed and refined within an array of research projects confronting specific disciplinary questions, without their advances necessarily being shared between disciplines, even though this sharing could be fruitful.

Additionally, while the methods and tools of data science make it possible to refine the understanding of many complex phenomena of diffusion, their implementation - and this in particular in the case of the COVID-19 epidemic - , raises questions about how to produce and use said data, and about the size of the accessible datasets. On these questions, critical approaches developed within disciplines such as law, social sciences or ethics can prove indispensable to data science.

As part of its 2021 edition, “Data Science Impulse” grant and UNIGE's Data Science Days planned for the month of June thus propose to build on the experience of the COVID-19 crisis to initiate **an interdisciplinary and critical reflection**, on the one hand, **on the innovative methods used in the study of phenomena related to dissemination** and, on the other hand, **on the legal, political, social, economic and ethical issues linked to the use of (big) data in the management of epidemics**. In this perspective, the CCSD is launching a call for participation for the community of UNIGE researchers across all disciplines.

## Guidelines for “Data Science Impulse”

### 1. Grant description

#### Objective

The “Data Science Impulse” grant intends to offer support for scientific collaboration:

1. Proposing a project related to data science likely to develop an innovative scientific method and / or to deepen and shed light on a data science research question linked to epidemic phenomena.
2. Formed around an interdisciplinary team, made up of UNIGE researchers from different Faculties / departments / sections.

#### What is offered

The project selected by the evaluation committee will receive an impulse grant of CHF 15,000.

To this, the CCSD adds personalized support according to the team and its needs:

- Networking opportunities within the community of UNIGE researchers
- Support for the dissemination of results in academia
- Promotion of the project and its results to the wider community

#### What is expected

The team awarded the impulse grant will be expected to:

- Actively participate in the activities of the Data Science Competence Center
- Present their primary results during the UNIGE's Data Science Days (June 2021)
- Systematically mention the support of the Data Science Competence Center in publications associated with the project

#### Duration and reports

The project supported by the “Data Science Impulse” grant must start upon receipt of funds, or by 1 January 2021 at the latest. The starting date of the project must be communicated in writing to the CCSD Program Manager. The project must be completed by 31 December 2021 at the latest. Recipients will participate in meetings every three months to keep the CCSD Program Committee and the CCSD Program Manager informed of the progress of the project.

### 2. Selection criteria

Project proposals will be assessed based on the following criteria:

#### 1) Compliance with the objectives of the call for projects

The proposals must be structured around the following three key aspects of the 2020-21 "Data Science Impulse" call for projects:



- a) The project must use an approach involving data science (as defined on the [CCSD website](#))
- b) The project must deal with epidemic phenomena (in the sense specified by the call)
- c) The project must have an interdisciplinary dimension, through the collaboration of UNIGE researchers.

## 2) Academic and social relevance of the project

The projects will be assessed based on their academic and social relevance. They must be likely to develop a scientific method and / or to deepen and shed light on an innovative research question.

## 3) Skills of the applicants and feasibility of the project

Applicants must be able to carry out all the activities necessary for the successful completion of their project, whether these are of a technical, scientific or operational nature.

The proposal must be convincing in regards to its technical, human and temporal feasibility.

## 4) Medium-term project development strategies

The "Data Science Impulse" grant aims to support the early stages of development of interdisciplinary projects in data science. As such, it is crucial that applicants include obtaining this fund in a medium-term financing strategy, which can in particular be based on future submission to other Swiss or international research funding programs.

# 3. Selection process

## Submission process

Applicants are invited to submit their project before 30 October 30 2020 at midnight by sending it to the following address: [ccsd@unige.ch](mailto:ccsd@unige.ch).

Proposals must be submitted using the project submission form provided on the CCSD website at the following address: <https://www.unige.ch/datascience/en/research/data-science-impulse/>

## Assessment process

The proposals will be assessed by an evaluation committee composed of a representative of each Faculty of the University of Geneva. This committee will meet in November 2020 and its decision will be made public no later than 30 November 2020. Teams will also be informed of rejection decisions on the same date (reasons for non-selection will not be specified).

# 4. Grant management

## Grant transfer

As soon as the project is selected, the CCSD will transfer the entirety of the funding to a university account managed by the recipients.



### **Duties of the applicants**

Every three months after the launch of the project, a meeting between the applicants, the CCSD Program Committee and the CCSD Program Manager will be organized to take stock of the scientific activities carried out. Six months after the start of the project, applicants are expected to send to the CCSD Program Manager a mid-term financial report. By the end of February 2022 at the latest, applicants are expected to submit a final activity and financial report, as well as a short report concerning the results obtained and the prospects made possible by the support of the CCSD. This short report will be published on the CCSD website.

### **Authorized expenses**

The “Data Science Impulse” grant cannot be used to finance conferences or seminars.

The purpose of the fund is to contribute to the consolidation of a research project, by providing concrete support for carrying out research activities.

In this perspective, the “Data Science Impulse” grant can be used to collect and process data (recovery, cleaning, structuring, analysis). This includes funding for travel (if justified by data collection), purchase of hardware and software, and payment of salaries.

If any doubt arises about the proper use of the grant, applicants are required to contact the CCSD Program Manager for a discussion prior to incurring any expense.