Complexity research in connection with the Covid-19 crisis

Note! The budget module Investments (up to € 150,000) is also made available within this call. See paragraphs 3.2 and 6.1 of the call.

Explanation to the application form

General information
Before filling in the application form you are requested to carefully read this explanation to the form and the *Complexity research in connection with the Covid-19 crisis* call for proposals. The call document is accessible via the funding page on the NWO website or via the tab page 'documents' in ISAAC.

The application form should be submitted via the online application system ISAAC (www.isaac.nwo.nl). After you have completed the application form, save it as a PDF file and upload the document – and the separate Excel budget – in ISAAC. Please note that you have to enter additional details in ISAAC in the different tab pages before you can submit the application. This requires some additional time which you should take into account when submitting the application. In order to process the application correctly the PDF document should not be protected by a password or secured otherwise.

The application should be written in English. You are requested to not change the structure of the form and use the following font: Calibri 10. Furthermore you are requested not to change, add or remove headers either in the application form or in the Excel budget form.

If you have any technical questions about ISAAC you can contact the ISAAC helpdesk. Please read the ISAAC manual (www.isaac.nwo.nl/en/help) before consulting the helpdesk. The ISAAC helpdesk is available Monday to Friday from 10:00 to 17:00 on 5.1.2e You can also send your queries by email to 5.1.2e @nwo.nl. You will receive a response within two working days.
For any other questions please contact the programme managers (5.1.2e @nwo.nl).

General information

1. **Main applicant**
Please provide the name of the main applicant. Please note that the application must be submitted via the ISAAC account of the main applicant.

2. **Project title**
Please fill in the project title of the proposed research. This title should be the same as the title you enter in the ISAAC system.

3. **Summary of the proposed research (maximum 250 words)**
You are requested to describe what the envisaged aim of the proposed research project is. What do you intend to accomplish with the research project?

The information you enter here should also be entered in ISAAC.

4. **Public summary (maximum 50 words each)**
Please provide both an English and Dutch public summary of the research project. If the grant application is successful, the public summary will be used in NWO publicity surrounding the announcement of the grant award decisions.

5. **Discipline code**
You are requested to fill out one or more research fields that correspond to the subject of the research proposal. Please find the list of NWO research fields via: www.nwo.nl/researchfields. Please note that it is

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compulsory to fill the same information also in the ISAAC system on the tab "General Information" (Algemeen) section "Research fields" (Disciplines) before submitting the full proposal application. Also, please note that in ISAAC you do not fill in the <u>code</u> but only the <u>research field</u>. **For example, if your main field of research is functions, differential equations you fill out the following:**
- In the full proposals application: 11.30.00, Functions, differential equations;
- In ISAAC: Functions, differential equations.

Please note that if the preferred language of your ISAAC account is Dutch, you search for the Dutch name of the research fields.

6. Keywords
Specify up to five keywords.

Research proposal

7. Description of the proposed research (maximum 5.000 words on maximum 10 pages)
You are requested to give a description of the proposed research project. It is important that you address the following criteria, as these are part of the assessment criteria of the application:
I. Relevance to the aim of the call
   a. Focus on the national crisis organization and the decentralized systems of for example the security regions and/or medical institutions.
   b. Contribution to theory development in, or innovation of, the field of complex systems.
   c. Implementation of the combination of complexity research, as demanded in Chapter 2 of the call for proposals.
II. Scientific quality of the research proposal
   a. Scientific approach, relevance and innovative aspects.
   b. Clarity of focus, objectives, and feasibility.
   c. Balance between objectives and available resources (budget, personnel and materials costs).
III. Knowledge utilisation
   a. A realistic representation of the knowledge utilisation possibilities (or the lack of possibilities).
   b. The extent to which the action plan is made tangible with respect to knowledge utilisation.

The description of the quality of the applicant(s) (third criterion) can be given in section 14. In assessing the applications, the criteria are weighted as follows: relevance to the aim of the call 15%; scientific qualify of the research proposal 40%; quality of the applicant(s) 25%; knowledge utilisation 20%.

Please note that the description of the research should not exceed the maximum of 5.000 words on maximum 10 pages. The word count does not include references, but does include footnotes, figure captions and tables.

8. Planning of the proposed research
Please indicate the envisaged start and end date of the research. The lead time of the project is at least 1 year and cannot exceed a period of 2 years.
Awarded projects must start within 6 months after the date of the award letter that is expected around May 2021.
Please note that it is **compulsory** to fill the same information also in the ISAAC system on the tab "General Information" (Algemeen) before submitting the application.

9. Work plan of the proposed research (maximum 500 words on maximum 1 page)

Please provide a work plan of the proposed research. Please note that the work plan should not exceed the maximum of 500 words on maximum 1 page.

10. Literature references

List relevant literature here and include full bibliographical details.

11. Data management

Responsible data management is part of good research. To promote effective and efficient data management, data sharing and data reuse, NWO expects researchers to carefully manage data resulting from NWO-funded research and prospectively plan for which data will be preserved and shared.

With the data management section, NWO mainly wants to raise awareness about the importance of responsible data management. The section is therefore not included in a committee's decision about whether or not a proposal should be awarded funding. NWO does, however, submit this section to the committee for advice.

It is recommended that you seek advice from a data steward or research support office at your home institution to complete this section. They will be able to recommend suitable storage facilities and repositories for your data, and to advise on data management costs.

After a proposal has been awarded funding, grantees are required to elaborate the data management section into a detailed data management plan explaining how research data and other results emerging from the NWO-funded research will be stored and made findable, accessible, interoperable and reusable (FAIR).

What does NWO understand as research data?
Research data are the evidence that underpin the answer to research questions, and can be used to validate findings. Data can be quantitative information or qualitative statements collected by researchers in the course of their work by experimentation, observation, modelling, interview or other methods, or information derived from existing evidence.

For the purpose of NWO's data management policy, the definition of research data does not include physical objects such as scientific and archaeological collections, physical arts works or biobanks; however, digital information extracted from such objects are to be regarded as research data.

Software is also not included in the definition of research data. NWO recognizes that software (algorithms, scripts and code developed by researchers in the course of their work) may be necessary to access and interpret data. In such cases, the data management plan will be expected to address how information about such items will be made available.

What data does NWO expects you share and preserve?
Research results should be stored in such a way that they can be retrieved and reused in the long term, also by researchers in disciplines and organisations other than those in which the research took place. The operating principle is that all stored data are, in principle, freely accessible and that access is only limited if needed for reasons such as privacy, public security, ethical restrictions, property rights and commercial interests.

NWO expects researchers to preserve the data resulting from their projects for at least ten years, unless legal provisions or discipline-specific guidelines dictate otherwise. As much as possible, research data should be made publicly available for reuse, unless there are valid reasons not to do so. As a minimum, NWO requires that the data underpinning research papers should be made available at the time of the article's publication. Any tools or software (algorithms, scripts and code developed by researchers in the course of their work) necessary to access and interpret data should be made available alongside the data.

The costs of data management are eligible for funding.

Important factors that determine the costs are:
- the type of data;
- the capacity needed for storage and backup;
- the amount of work needed to allocate metadata and the compilation of other documentation such as codebooks and the queries used in the statistical package;
- the extent to which the data needs to be protected;
- the hiring in of external data management expertise or other expertise.

Applicant(s) (optional: and other members of the team)

12. Main applicant
Please provide the requested information.
The main applicant is the proposed project leader in case the application will be awarded a grant. During the assessment procedure the main applicant will be the contact person of the application. See paragraph 3.1 (Who can apply) for the general requirements for applicants and co-applicants.

13. Co-applicant(s) (optional)
Please provide the requested information. See paragraph 3.1 (Who can apply) for the general requirements for applicants and co-applicants. Please note that it is **compulsory** to fill the same information also in the ISAAC system on the tab 'Co-applicants'.

14. Quality of the applicant(s)
You are requested to include here a short description of the quality of each applicant to the application listed in section 12 and (optional) 13. (No descriptions should be given for any other members of the team listed in section 15.)

15. Other members of the team (optional)
Please provide the requested details.

16. Supervision
Please indicate who will act as supervisor(s) for the requested post doc(s).

Financial details

17. Project budget
Please follow the instructions in the Excel form carefully.
If you have any doubt as to whether your budget table is in line with the Call, please contact NWO (see Section 5.1 for contact information).

18. Justification of the budget (maximum 500 words)
Discuss the choice for the type (post-doc/research leave) and number of personnel. In case a small investment (up to € 150,000) is foreseen, indicate whether this investment will be developed exclusively for the proposed research, why there is no nearby equipment available that warrants this investment and how the investment relates to the number of researchers using it. Also discuss and motivate your choices for budget decisions. Provide a justification for the budget for knowledge utilization, internationalisation, Money follows Cooperation, and a motivation for an excess in materials budget (if the cumulative total exceeds k€ 15 per postdoc per year).

19. Other grant applications for this project or idea
Please indicate whether one or more of the applicants has submitted – or intends to submit – a similar proposal or idea to another funding source (e.g. either from NWO or from another (inter)national funding

agency). If yes, please tick the corresponding box and provide the requested information in the table below. Please add a new table for each similar proposal or idea.

If no, please tick the box 'not applicable'.

Statements and signature

20. Statements by the PI

For each applicant whose contract term is shorter than the duration of the envisaged research a guarantee letter of the employer needs to be uploaded in ISAAC with the application. This letter needs to guarantee the continuity of the research and supervision of the post doc researchers in case the contract of the person concerned will not be renewed.

It is mandatory to tick at least boxes 1 and 3.

The main applicant should sign the application, and submit the application and the separate Excel budget form and any obligatory letters electronically via the online application system ISAAC (www.isaac.nwo.nl). The deadline for submitting the application is **January 26, 2021, 14.00 hours CET.**