

RESEARCH LABORATORIES AND HIGHER EDUCATION INSTITUTIONS ARE INVITED TO RESPOND TO A CALL FOR 2021 DOCTORAL THESIS PROJECTS

Andra's mission serves the general interest: the long-term management of radioactive waste to ensure the protection of man and the environment. Given their specific nature (long timescales, etc.), the development of repositories for the disposal of radioactive waste must be based on solid scientific and technological knowledge if it is to properly meet the design, operation, observation/monitoring and safety requirements of these facilities. To do this, Andra's R&D covers a wide range of scientific and technological fields, including basic aspects of repositories such as geosciences (geology, geomechanics, geochemistry, geodynamics, etc.), waste behaviour, the behaviour of radionuclides and toxic chemicals, the behaviour of basic materials (concrete, metals, reworked clays) and numerical simulation.

This R&D relies in part on unique research tools Andra has developed over 20 years: numerical simulation tools adapted to represent (through time and space) the operation of disposal facilities, and analyse their performance and safety, the Underground Research Laboratory and the Perennial Observatory of the Environment with its Environmental Specimen Bank in Meuse/Haute-Marne. Andra calls on research organisations, particularly academic ones, recognised in their field both in France and abroad: the results are the fruit of their excellence, capacity for innovation and independence. Each year, Andra's call for thesis projects is made in this framework.

Andra's 2021 call for thesis projects covers a set of topics concerning short and medium-term operational challenges, mainly for the Industrial Centre for Geological Disposal (Cigeo project), as well as its surface centres. It involves dealing with complex issues, particularly multiple couplings, in order to get as close as possible to actual repository operation in order to optimise design and safety margins and prepare the way for future optimisation in design. The associated scientific challenge and obstacles are important. The proposed topics thus call for solid scientific and technological knowledge and multiple qualities including multidisciplinary, analysis and cognitive ability, often combining experimentation, modelling and numerical simulation. They provide a forum for the expression of the scientific excellence of the laboratories and candidates.

1. The complete **application** form must be returned in electronic format to marie-anne.bruneaux@andra.fr **no later than 2 April 2021**.

The application shall include:

- fact sheet on the host laboratory;
- detailed presentation of the thesis topic;
- description of the thesis operating budget;
- information sheet on the candidate, accompanied by a CV, a cover letter and his/her degrees and/or transcripts.

Note: candidates must be under 26 years of age on 1 October 2021. For administrative reasons, candidates must be citizens of the European Union.

2. Once the applications have been received, the proposed thesis topic (objectives, programme, etc.) are to be **presented** by the doctoral candidate with the support of the laboratory or laboratories before an evaluation committee which includes Andra scientists, during the first two weeks of April 2021.
3. Andra will inform the research laboratories and higher education establishments submitting proposals and doctoral candidates of the response to their applications no later than **30 April 2021**.

Andra will award the thesis grant for a period of three years beginning 1 October 2021.

For the projects selected, research laboratories and higher education institutions will have to comply with the general principles of collaboration with Andra described in the corresponding document.

Contact:

Marie-Anne Bruneaux

In charge of valorisation of scientific knowledge, know-how and scientific tools

Research & Development Division

Parc de la Croix Blanche

1/7 rue Jean Monnet

92298 Châtenay-Malabry Cedex, France

E-mail: marie-anne.bruneaux@andra.fr

Telephone: +33 (0)1 46 11 82 68