

Call for the development of
classroom material suitable for
secondary education in Europe



FuseNet
The European Fusion Education Network
ASSOCIATION

1 Purpose

The FuseNet Association is an independent legal entity that was founded in December 2010 to provide a platform for the coordination of European fusion education activities.

In order to stimulate the influx of a diverse pool of students into the fusion curricula, FuseNet has decided to stimulate the development of learning material on nuclear fusion as a future energy source. This material shall be in such a format that it can easily be integrated into the European educational curricula. The target groups are upper secondary school classes (ISCED level 3).

This material is aimed to be circulated to (physics) teachers around Europe, in particular at the occasion of the Teacher Day organized by FuseNet (first edition 17th June 2020).

This call is open to all FuseNet members willing to devote manpower to prepare material (slides and a written contribution in the reader).

2 Scope

The education material should cover a range of learning objectives (the coverage of which shall be potentially divided among the submissions). In collaboration with the Academic Council and the Student Council, they will be evaluated and further developed. Learning objectives that can be addressed in a proposal to this call:

- Understanding the physics of a nuclear fusion reaction and the basics of plasmas
- Understanding how electricity is generated in a fusion power plant
- The history of fusion concepts and the current status
- Material challenges in fusion to withstand radiation
- Magnet technology: introduction of superconductivity
- Engineering challenges in fusion
- Nuclear safety aspects in fusion
- Computation and data science in fusion
- Project management, organization and communication issues
- How will fusion energy fit into a future global energy mix?

The main criterium is that the contents the picture starting from concepts introduced in the targeted education level (ISCED 3).

The language of the material shall be English. However, indicating the availability to translate developed material into another European language is helpful. FuseNet will coordinate the translation of the final deliverables into other European languages.

3 Deliverables

After the FuseNet Association's approval of participants, contributors shall provide the material by the end of May.

The deliverables consist of:

- A set of visual slides explaining the concepts
- A section of text for the reader
- A short description
- References for further study, books, articles, and (if applicable) tools
- Optionally: a translation in another national European language used to teach classes.

Together with the contributors to the awarded proposals, the evaluation committee of FuseNet will agree on a template for the material provided.

4 Budget and procedure

FuseNet expects proposals in the order of 2-10k€, covering a range of the learning objectives.

The allocated budget can be utilized to cover worked hours, by staff or PhD-students, provided they can be claimed through EUROfusion.

Proposals will be evaluated by a committee, including a Board member and participation of the Academic Council and the Student Council of FuseNet.

The proposals should be submitted to feo@fusenet.eu by 14th May 2020 at the latest. Given the timeline, the next Monday, 18th May, the work should be able to start.