

Call for contribution of expertise

CERN invites collaborating institutes and universities to contribute the expertise of their qualified employees to the activity described below.

Start date: 01.10.2020

Duration: One-year, possible extension to a maximum of up to 3 years.

Project/Activity: Vacuum engineer for the High luminosity upgrade

Detailed description of Activity:

The expert will join the TE-VSCE group and contribute to the upgrade study of the LHC beam vacuum system and several vacuum-related contributions to other systems. The main tasks will include, amongst others:

- Participate to the upgrade study of the LHC beam vacuum system;
- Perform integration studies for the existing vacuum layout;
- Design of vacuum components, including the interaction with the design team at CERN and take care of sourcing procurements and procurements follow-up of vacuum components for tests;
- Participate to the vacuum commissioning in the LHC tunnel;
- Participate to vacuum laboratory studies in order to validate new materials;
- Perform vacuum profile calculation with LTSpice, VASCO and Molflow+ software.

Profile: Master's degree or Bachelor in materials science and mechanical engineering or similar. Experience in working with vacuum and UHV systems. The ability of using necessary codes to perform simulations necessary for the vacuum calculations

Specific details: Candidates will be expected to possess a good working knowledge of either English or French and of software 3D package in CATIA or similar. Have good knowledge of MATLAB or Python code is a plus. Good communication skills and well-developed team-working attitude. The expert will be expected to possess a good working knowledge of either English or French. Documentation shall be produced in English.

Status at CERN: Associated Member of the Personnel (Project Associate).

Conditions in accordance with CERN's Staff Rules and Regulations and Administrative Circular No. 11. Subsistence allowance is payable by CERN to cover the additional cost arising from the individual's (and, as applicable, their family's) stay in the local area while performing activities at CERN.

Option: Collaborating institutes and universities can propose to support the activity of the qualified employees participating in this "Call for contribution of expertise" with students or other employees. Their status and Subsistence allowance when applicable will be adapted to their relationship with their institutions

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Reference: 2020_Q2_010_WP12_Beam_Vacuum