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: 01.01.2018	*Duration:* One year, possible extension to a maximum of up to three.

Project/Activity: Development and qualification of cold diodes for the protection of superconducting magnets

Detailed description of Activity:

- Understanding of the physics phenomena related to semiconductors working under radiation and at cryogenic temperatures.
- Preparation of diode samples for irradiation and monitoring / diagnostics of the samples during irradiation.
- Preparation of a cryogenic set up to hold diode samples during irradiation and later on during diagnostics.
- Extrapolation by models of the effects of the semiconductor design parameters into the operational performance of the solutions.

Profile: Master degree in solid state physics or engineering, or equivalent technical experience. Experience in:

- Design and use of power semiconductors.
- Knowledge on the effects of radiation to matter, in particular to semiconductors.
- Knowledge on low-temperature physics and cryogenic systems would be an advantage.
- Additional experience within the domain of electrical diagnostics and related equipment (measurement techniques and instrumentation, data acquisition and analysis tools) would be an asset.

Specific details: Good communication skills. Good team-working attitude. Valid driving license. Good working knowledge of English. Some knowledge in French would be an advantage.

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 relation with their institutions

Contact person: Isabel Bejar Alonso	*Reference:* 2017_Q3_031_Diodes