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UNIVERSITÄT
BERN

AEC
ALBERT EINSTEIN CENTER
FOR FUNDAMENTAL PHYSICS

Laboratory for High Energy Physics, Sidlerstr. 5, 3012 Bern, Switzerland

Early Stage Researcher (ESR) position in Neutrino Physics

Applications are invited for an Early Stage Researcher (ESR) position intended to lead to a PhD degree in Physics at the University of Bern. The ESR position is available as part of the Marie Skłodowska-Curie Innovative Training Network (ITN) "INTENSE" (Grant Agreement Number: 858199, website: <http://itnintense.df.unipi.it/>). The INTENSE program is focused on experimental particle physics, particle accelerators and particle detectors including e.g. neutrino, flavor, dark matter, or BSM (Beyond the Standard Model) searches.

The salary consists of a monthly Living Allowance; in addition, researchers recruited within an ITN program are entitled to receive a monthly Mobility Allowance and, if applicable, a Family Allowance depending on the marital status. The family status of a researcher will be determined at the date of her/his (first) recruitment in the action and will not evolve during the action lifetime. **The net salary will be determined after subtracting all compulsory (employer and employee) deductions and withholdings from the gross amounts in line with national legislation.**

Functions:

Participation in SBN (MicroBooNE, SBND), with a focus on the CRT and UV-laser systems. Based on the MicroBooNE, perform performance evaluations, reconstruction and analysis in SBND and extrapolate to DUNE. Accurate calibration and reconstruction of events in the near detectors will be crucial for the neutrino oscillation analyses. The SBND near detector, as well as the 2x2 DUNE demonstrator will provide samples of neutrino interactions on argon to be used for physics and performance analysis.

The selected candidate will be recruited by the University of Bern under an employment contract of a limited/fixed duration of thirty-six (36) months and will be based in Bern. During her/his appointment, the selected candidate is expected to travel at the international level, under secondments for a total duration of up to 30% of her/his contract, to another beneficiary and/or partner organizations of the INTENSE program.

Additionally, the selected candidate is expected to participate actively, as needed, in the INTENSE activities, workshops, schools as well as conferences, career development and networking activities. The ESRs will also be involved in outreach activities.

Eligibility criteria (EU requirements):

The ITN INTENSE complies with an equal opportunity and gender balance policy. Eligible candidates may be of any nationality. At the date of recruitment (the first day of the employment of the researcher for the purposes of the action), the selected candidate must:

- be an **‘Early Stage Researchers’** (i.e. be in the first four years – full time equivalent research experience - of her/his research career and have not been awarded a doctoral degree).
- not have resided or carried out their main activity (work, studies, etc.) in Switzerland for more than 12 months in the 3 years immediately before the recruitment date. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention (1951 Refugee Convention and the 1967 Protocol) are not taken into account.

Required Qualification and Skills:

- Master's degree, or equivalent degree, in Physics.
- High level and proven of accomplishment with excellent background in particle physics and in physics of fundamental interactions.
- Strong knowledge and demonstrated hands-on experience in particle detectors development, commissioning and operation; development and optimization of calibration algorithms and procedures; development of Monte Carlo simulations; data analysis and advanced statistical methods for data analysis; C/C++ programming.
- Good knowledge of FPGAs and microcontrollers, firmware, algorithms and software, embedded systems with Linux/Windows embedded environment and C/C++ programming, control and DAQ systems, performance simulations, experimental characterization, troubleshooting and qualification would be an advantage.
- Ability to produce scientific/technical reports.
- High motivation to learning and developing new technologies and creativity in applying them to relevant applications; collaborating on projects with external partners; research and innovation processes.

Required Behavioral competencies:

- **Communicating effectively:** Ability to speak and write clearly and effectively in English; expressing opinions, ideas and suggestions with conviction and in a logical/structured manner; keeping to the point; listening actively to others; ensuring that information, procedures and workflow are appropriately documented and communicated.
- **Achieving results:** planning and implementing tasks with a structured and organized approach; setting and reviewing priorities keeping in mind the expected results; Contributing actively to delivering results in an efficient and effective manner.
- **Strong interpersonal skills** and capability to work both in a team and independently.
- **Independent/critical thinking** as well as persistence in front of setbacks and self-discipline are important qualities taken into consideration.

Required Language skills:

- Excellent oral and written communication skills in English (C1 level expected); basic knowledge of German would be an advantage.

How to Apply:

ALL applications (Curriculum Vitae, Transcript of Studies both in the original language and translated into English, Statement of Motivation (maximum two pages), List of Publications and at least 2 Recommendation Letters) **must be readable, complete, submitted electronically and exclusively in English by email to ursula.witschi@lhep.unibe.ch**.

The subject and the text of the email should explicitly contain the text “Application for one ESR position at the University of Bern as part of INTENSE H2020-MSCA-ITN-2019”. Incomplete applications will not be considered.

Every applicant for this position must indicate, in her/his application email, that her/his personal data and details can be shared with the beneficiaries and partners of the INTENSE program (GA 858199) via conventional electronic communication protocols. Without this statement/consent, we will not be able to forward her/his personal data for further consideration purposes of her/his job application.

This vacancy will be filled as soon as possible, and applications should reach us no later than **31.10.2020**.

Additional Information:

The recruitment is taking all necessary measures to implement the principles set out in the Commission Recommendation 2005/251/EC of 11 March 2005 on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (OJ L 75, 22.3.2005, p.67), of which all candidates are encouraged to be aware.

INTENSE is open to researchers regardless of sex, sexual orientation, gender identity, race, color, language, religion, political or other opinion, national or social origin, property, birth or other status. Female candidates, candidates from minority groups, refugee candidates, and other potentially discriminated persons are explicitly encouraged to apply.

For more information, please contact:

Prof. Michele Weber, University of Bern, email weber@lhep.unibe.ch

and/or

Prof. Simone Donati, INTENSE Principal Investigator, email: simone.donati@unipi.it