



**SOLICITUD DE PARTICIPACIÓN: PROGRAMA GLOBAL TRAINING 2021-2022 – INFORMACIÓN DE LA PRÁCTICA**

INFORMACIÓN CORPORATIVA	
Nombre de la empresa/institución	Helmholtz-Zentrum Berlin für Materialien und Energie
Persona de contacto	Pablo Echevarria Fernandez <span style="float: right;">Email:</span>
Localización	País: Alemania
	Ciudad: Berlin
	Dirección: Albert Einstein Straße 15, 12489
Sector	Scientific research on materials for a sustainable energy supply and operation of the electron storage ring BESSY II

INFORMACIÓN DE LA PRÁCTICA PROPUESTA	
Número de becarios a acoger	2
Tiempo de prórroga de estancia (OPCIONAL)	Meses extra: 0
VER DOCUMENTO: "FORM 2_Global Training 2021 preacuerdo extensión"	Mensualidad (€) del becario durante los meses extra (entre 0 y 1500€/mes)

INFORMACIÓN DE LA PRÁCTICA	
Departamento (en caso de solicitar más de 1 becario, indicar el departamento en el que trabajaría cada uno)	Institute for Science and Technology of Accelerating Systems
Descripción del proyecto/actividades (en caso de solicitar más de 1 becario, indicar el proyecto/actividades en las que trabajaría cada uno)	<p>The Institute of SRF Science and Technology is in charge, among other tasks, of the design, construction and commissioning of superconducting cavities used for particles acceleration. Currently it is working in to major projects: bERLinPro and BESSY-VSR.</p> <p>bERLinPro (Berlin Energy Recovery Linac) is an energy recovery linear particle accelerator currently in the commissioning stage in Berlin. The principle behind this project is the construction of high current, compact particle accelerators requiring much less electrical power and, subsequently, reducing the environmental and financial impacts.</p> <p>BESSY-VSR (BESSY Variable Pulse Length Storage Ring) is the upgrade of the storage ring of the synchrotron light source BESSY-II, in operation since 1998, to allow the circulation of particles bunches of different lengths and, thus, expanding the flexibility of the machine toward the beamlines users.</p> <p>Both projects require the installation of several superconducting structures (cavities) with the subsequent associated subsystems, such as, cryogenics to generate liquid Helium at 1.8K, ultra high vacuum, high power radiofrequency systems, etc.</p> <p>The activities of the trainees will range from the design and simulation of cavities, set up of laboratory experiments, experimental measurements, electromagnetic fields control algorithms design, etc. The specific tasks of the trainees will be adapted, as much as possible, to the previous experience and training of the trainee.</p>



COMPETENCIAS REQUERIDAS PARA EL PUESTO	
<p><b>Información sobre los perfiles deseados</b> (Estudios, experiencia previa, idiomas, otras habilidades...)</p>	<p>Studies: Physics, Electronics Engineer, Industrial Engineer, Computer Science Engineer.</p> <p>Languages: Good English level. The working language will be English. German knowledge is an asset but not necessary. It's very important that the trainee is capable of documenting and reporting their work properly.</p> <p>Other valuable skills: Control algorithms, FPGAs programming, programming languages (LabView, Python, C++), CST Studio, RF systems knowledge (oscilloscopes, network analyzers, spectrum analyzers...), ability of working in a multicultural team.</p>
<p><b>Comentarios</b></p>	

## FORMULARIO SOLICITUD 1

### INFORMACION SOBRE LA EMPRESA

<p>LOGO EMPRESA</p>	
<p>PAGINA WEB</p>	<p><a href="https://www.helmholtz-berlin.de/">https://www.helmholtz-berlin.de/</a></p>
<p>INFORMACION SOBRE LA CIUDAD Y LA ZONA DONDE SE ENCUENTRA SITUADA LA EMPRESA/INSTITUCION (SEGURIDAD, ALOJAMIENTO, TRANSPORTE ETC)</p>	<p>HZB has two campuses in Berlin, which is a modern, multicultural and very safe city with a good public transportation network. The trainee will work in the Adlershof Campus, situated in the southeast of the city. The campus is at a 25 minutes by train distance to the Train Circular line that surround the city and at around 40 minutes to Alexanderplatz. The campus has several student residences and the possibility of renting apartments. An interesting option in the city is looking for a shared apartment.</p>
<p>INFORMACION GENERAL DE LA EMPRESA/INSTITUCION</p>	<p>Materials for a sustainable energy supply and operation of the electron storage ring BESSY II – those are the cornerstones of HZB and its research. Both of these fields complement each other, since questions arising from research continually drive the advancement of the experimental environment at BESSY II and vice versa; the possibilities that BESSY II offers accelerate energy research enormously.</p> <p>Helmholtz-Zentrum Berlin (HZB) has existed since 2009. Its roots go much further into the past, given that HZB arose from the fusion of two older research institutions, the former Hahn-Meitner-Institut (est. 1959) and BESSY GmbH (est. 1979). With approximately 1,100 employees, HZB is now one of the largest non-university research centres in Berlin, and a member of the Helmholtz Association. HZB conducts research at two locations, in Wannsee and Adlershof.</p> <p><a href="https://www.helmholtz-berlin.de/zentrum/forschungszentrum/fakten_en.html">https://www.helmholtz-berlin.de/zentrum/forschungszentrum/fakten_en.html</a></p> <p>The company can be grouped into the RIS3 Energy category.</p>
<p>ACTIVIDAD PRINCIPAL</p>	<p>Scientific Research</p>
<p>TAMAÑO DE LA EMPRESA (EMPLEADOS)</p>	<p>More than 1100</p>
<p>NUMERO DE PERSONAS EN EL DEPARTAMENTO DONDE TRABAJARÁ EL BECARIO</p>	<p>40</p>



<p>TIPO DE PROYECTOS</p>	<p>The Helmholtz-Zentrum Berlin für Materialien und Energie explores materials and complex material systems that help to face current and future challenges, such as the “Energiewende”. Energy conversion and efficient use of energy and resources in information technology but also other innovative fields depend largely on the research and testing of new material systems.</p> <p>The scientists investigate where the macroscopic properties of materials derive from which microscopic or molecular structures. This understanding is a prerequisite for the design of tailored materials and drugs for tomorrow. One of the HZB’s research emphases is on materials that are needed for a secure and sustainable energy supply, such as materials for thin-film photovoltaics and for the conversion of solar energy into chemical energy carriers (e.g. molecular hydrogen).</p> <p>To solve those scientific problems, HZB operates a large research infrastructure of international importance – the 3rd generation synchrotron radiation source BESSY II. HZB’s user platform coordinates access to the infrastructure. Both scientific instrumentation and the large machine are continually being developed to stay at the cutting-edge. To make sure to offer optimal research conditions also in the future, HZB is working on so called “Future Projects” and reports on planning and realization of these projects on this website.</p> <p>As part of the strategic research funding (POF) of the Helmholtz Association, the HZB involved in the Helmholtz Research Fields MATTER and ENERGY.</p> <p><a href="https://www.helmholtz-berlin.de/forschung/unsere-forschung/index_en.html">https://www.helmholtz-berlin.de/forschung/unsere-forschung/index_en.html</a></p>
<p>COLABORACION EN PROGRAMAS SIMILARES A GLOBAL TRAINING</p>	<p>HZB has a very close contact with several universities like Humboldt University, Freie University, Siegen University and even UPV/EHU with a memorandum of understanding. We host every year Bachelor, Master and PhD students as well as summer students and trainees. During the last years we have received trainees from UPV/EHU through the Erasmus+ Programme</p>
<p>OTROS DATOS DE INTERÉS</p>	