



GLOBAL TRAINING PROGRAMME

FORMULARIO 1 SOLICITUD DE PARTICIPACIÓN: PROGRAMA GLOBAL TRAINING –

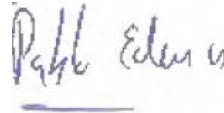
REFERENCIA: EHU21

INFORMACIÓN CORPORATIVA			
Nombre de la empresa/institución		Helmholtz-Zentrum Berlin für Materialien und Energie	
Persona de contacto		Pablo Echevarria Fernandez	Email:
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		1	
Tiempo de prórroga de estancia (OPCIONAL)	Meses extra	0	
	VER DOCUMENTO: "FORM 2_Global Training 2023 preacuerdo extensión"	Mensualidad (€) del becario durante los meses extra (entre 0 y 1600€/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 for Science and Technology of Accelerating Systems is in charge, among other tasks, of the design, construction and commissioning of superconducting cavities used for particles acceleration. Currently it is working in two major projects: SEALab and VSR-Demo.</p> <p>SEALab (SRF Electron Accelerator Laboratory) where the commissioning of the first stages of an energy recovery linear (ERL) particle accelerator are about to take place. The principle behind this idea is the construction of high current, compact particle accelerators requiring much less electrical power and, subsequently, reducing the environmental and financial impacts.</p> <p>VSR-Demo (BESSY Variable Pulse Length Storage Ring Demonstration Project) is the preliminary step to study the possibility of upgrading 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>Información sobre los perfiles deseados (Estudios, experiencia previa, idiomas, otras habilidades...)</p>	<p>Studies: Physics, Electronics Engineer, Industrial Engineer, Computer Science Engineer. 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. 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>Comentarios</p>	<p>In the previous edition, the tasks performed by the trainee granted them a co-authorship in a publication sent to the International Particle Accelerator Conference.</p>

EMPRESA/ORGANISMO	FIRMA	FECHA
<p>RESPONSABLE EMPRESA: Pablo Echevarria Fernandez</p>		<p>30.03.2023</p>



INFORMACION SOBRE LA EMPRESA

LOGO EMPRESA	
PAGINA WEB	https://www.helmholtz-berlin.de/
INFORMACION SOBRE LA CIUDAD Y LA ZONA DONDE SE ENCUENTRA SITUADA LA EMPRESA/INSTITUCION (SEGURIDAD, ALOJAMIENTO, TRANSPORTE ETC)	<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>
INFORMACION GENERAL DE LA EMPRESA/INSTITUCION	<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>https://www.helmholtz-berlin.de/zentrum/forschungszentrum/fakten_en.html</p>
ACTIVIDAD PRINCIPAL	Scientific Research
TAMAÑO DE LA EMPRESA (EMPLEADOS)	More than 1100
NUMERO DE PERSONAS EN EL DEPARTAMENTO DONDE TRABAJARÁ EL BECARIO	40
TIPO DE PROYECTOS	<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. 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</p>



	<p>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>https://www.helmholtz-berlin.de/forschung/unsere-forschung/index_en.html</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>In 2023 we are also planning to host trainees from the Universidad de Castilla la Mancha via a programme organized by the Sociedad de Científicos Españoles en la República Federal de Alemania (CERFA).</p>
<p>OTROS DATOS DE INTERÉS</p>	