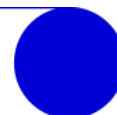




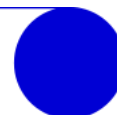
**HORIZON EUROPE Research and Innovation Framework Programme
MARIE SKŁODOWSKA-CURIE ACTIONS**

**PARTNER SEARCH FORM
Doctoral Networks (DN) and Staff Exchanges (SE)**

Organisation Name/ Department (<i>if applicable</i>)	Selcuk University	
Website of the organisation (<i>in English</i>)	https://www.selcuk.edu.tr/#	
Organisation Short Name	SU	
Organisation Type	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Non-academic	<input type="checkbox"/> Higher Education Institution <input type="checkbox"/> Research organisation <input type="checkbox"/> International European Research Organisation <input type="checkbox"/> SME <input type="checkbox"/> Other (please specify)
Research Fields	<input checked="" type="checkbox"/> Chemistry (CHE) <input type="checkbox"/> Social Sciences and Humanities (SOC) <input type="checkbox"/> Economic Sciences (ECO) <input type="checkbox"/> Information Science and Engineering (ENG) <input type="checkbox"/> Environment and Geosciences (ENV) <input type="checkbox"/> Life Sciences (LIF) <input type="checkbox"/> Mathematics (MAT) <input type="checkbox"/> Physics (PHY)	
Sub-Fields/ Keywords (<i>up to 5</i>)	-Electrocatalyst -Hydrogen evolution -Green chemistry -Artificial intelligence/machine learning -Redox flow battery	
Marie Skłodowska-Curie Action(s) of interest	<input type="checkbox"/> Doctoral Networks <input checked="" type="checkbox"/> Staff Exchanges	
Short Description of Your Project Idea/ Expertise offered to potential project partners/ Looking for specific expertise from potential project partners (<i>up to 1500 characters with spaces</i>)	In this project proposal, to fulfill the global climate goals and contribute to finding solutions to the energy problem, the electrocatalytic HER process and artificial intelligence technology will be combined to provide energy solutions. <ul style="list-style-type: none"> Green chemistry by catalysts will be used for the performance of the electrocatalytic hydrogen evolution reaction (HER), building with doped, co-catalysts, or heterojunction to solve the recombination of charge carriers, promote 	



	<p>charge separation efficiency and increase H₂ yield.</p> <ul style="list-style-type: none"> • The optimum parameters will be determined in the lab scale by defining the catalyst synthesis conditions (heating rate, hold time, temperature, etc.) and electro-driven experimental design (amount of catalyst, design the of system, etc.) • To predict the next experiments and calculations with obtained data, such as physicochemical properties of catalysts, HER performance, artificial intelligence, which is a model learning from data, will apply to integrated with DFT as a quantum mechanics. • The industry part will be employed the proposed system by using redox flow batteries <p>Requested partner:</p> <ul style="list-style-type: none"> -Partner 1: Material Science (Synthesis of electrocatalysts for hydrogen evolution that are completely green inside) -Partner 2: Machine learning and artificial intelligence (For designing catalysts and predicting the undeveloped catalysts with superior catalytic activity and stability) -Partner 3: Storage of hydrogen energy (Redox flow batteries)
<p>Short Description of the Organisation/ Department - strengths and scientific achievements (publications, patents, etc.), important infrastructure <i>(up to 1000 characters with spaces)</i></p>	<p>Selçuk University (SU) is one of the biggest universities located in the central of Anatolia, Turkey, currently has 1100 full-time faculty members, 1500 research staff. Its main objective has always been focused on education and training of highly component professionals in various fields and has been in the top list of the frame of entrepreneurship and innovation universities. It is aimed to be a well known university globally within the 500 top universities according to Strategic Roadmap (2014-2018) SU. For this, it has been decided to integrate the European Research area (ERA) with the Higher Education area in Europe. SU has highly qualified staff and state of the art facilities to carry out research in the areas of nanotechnology, advanced materials, and biotechnology.</p>
<p>Previous Projects/ Research Experience (international/ EU/ big national or regional projects) <i>(up to 5)</i></p>	<p>SU has an established reputation for successful participation in EU research programs (FP7, H2020 and COST, etc.).</p> <ul style="list-style-type: none"> -H2020-MSCA-RISE-2017 “NanoFeed; Nanostructured carriers for improved cattle feed



	<p>-FP7-NMP, Large Area Molecularly Assembled Nanopattern for Devices (LAMAND) (http://web.tyndall.ie/projects/lamand/Staff.htm),</p> <p>-FP7-INFRA-2012, The European Solar Infrastructure for Concentrated Solar Power (EU-SOLARIS) (http://eusolaris.eu/About/Partners.aspx)</p> <p>-Universal Nanotechnology Skills Creation and Motivation Development 2016-1-TR01-KA203-034520, Erasmus+</p> <p>-Continuous Vocational Training For Innovation in SMEs 2013-1-IT1-LEO04-04203 7, Program Leonardo da Vinci, Lifelong learning (2013-2015)</p> <p>SU, has been taking roles at international platforms, i.e. Euronanoforum (2013, 2015) and Industrial Technologies (2014), SU has participated in Brokerage events in the EU and attending to consortium studies for Horizon 2016-2017 and the next project calls. In order to be more active in ERA, ILTEK has been a member of the NANOfuture Association (http://www.nanofutures.eu/), (http://www.nanofutures.eu/regional-contacts). Institutions from all over the world, especially European establishments operating in the field of nanotechnology are members of this organization and ILTEK cooperates with all the institutions affiliated with this organization</p>
Main Collaboration Partners (Countries) (up to 5)	has not been determined yet
Contact Person/ Position in the Organisation	<p>Mustafa Ersoz/Prof. in Department of Chemistry</p> <p>İmren Hatay Patır/Prof. in Department of Biotechnology</p> <p>Gizem Yanalak/Res. Assist. Dr. in Department of Biochemistry</p>
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