This project is co-funded by the European Union and the Republic of Türkiye

MSCA SE 2026 Call

PRESENTER FULL NAME: Gözde BAYAZİT SEKİTMEN

ORGANIZATION: Hacettepe University

WORKSHOP NAME:

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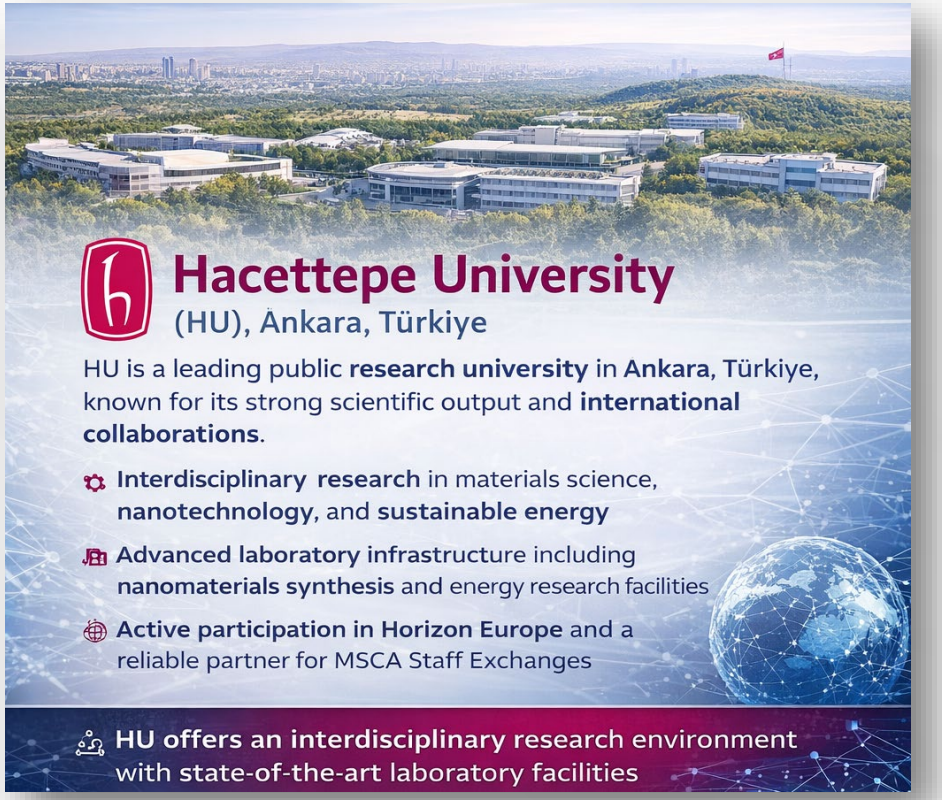
Description of the Organisation



Hacettepe University (HU) is a leading public research university in **Ankara, Türkiye**, known for its strong scientific output and international collaborations.

The **Faculty of Engineering** offers an interdisciplinary research environment in **materials science, nanotechnology, and sustainable energy**, supported by **advanced laboratory** infrastructure.

HU actively **participates in Horizon Europe** and promotes researcher mobility and intersectoral knowledge exchange, making it a reliable partner for MSCA Staff Exchanges

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Our team has strong expertise in nanomaterial synthesis, **small- and wide-angle X-ray scattering** (SAXS/WAXS), and advanced nanomaterials characterization techniques, combined with experience in functional materials and sustainable energy systems.

We integrate **materials design**, **structural analysis**, and **physicochemical characterization** to support interdisciplinary research and effective knowledge exchange within MSCA Staff Exchanges.

Nanomaterials Synthesis and Characterization

Small and Wide Angle X-Ray Scattering

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Your Research Fields

Advanced Nanomaterials Synthesis(MXenes, Metal Hydrides, Functional Nanocomposites)

X-ray Based Characterization(SAXS/WAXS, XRD, XPS, Synchrotron Techniques)

Energy Materials & Hydrogen Storage(Sustainable Energy Systems, Solid-State Hydrogen Storage)

Structure–Property Relationships(Nanoscale Analysis, Mechanism-Oriented Materials Design)

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Your On-going Projects

My ongoing research focuses on the development of functional materials for **hydrogen storage and production,** supported by advanced **SAXS-based structural analysis** and other characterization techniques.

I integrate nanomaterial synthesis with nanoscale structure–property investigations to design high-performance energy materials.

I aim to advance interdisciplinary materials research through **nanoscale analysis and sustainable energy applications** within strong international collaboration frameworks.

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Project Idea

Project Idea: Development of MXene–metal hydride nanocomposites for enhanced hydrogen storage and production via green synthesis approaches and sustainable materials design strategies.

Deadline Dates: To be determined according to the official MSCA Staff Exchanges 2026 Call timetable.

- **Objectives:** The project aims to develop environmentally friendly green synthesis routes for MXene–metal hydride nanocomposites, enhance hydrogen sorption capacity, kinetics, and reversibility through advanced interface engineering strategies, and promote intersectoral and international knowledge exchange via structured staff secondments.

- **Expected Results:** Sustainable and scalable synthesis protocolsImproved hydrogen storage performance under near-ambient conditionsStrengthened EU collaboration network and high-impact joint publications

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Consortium - profile of known partners (if any)

No	Partner Name	Type	Country	Role in the Project
01				
02				
03				
04				
05				

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Consortium – required partners

No	Expertise	Type	Country	Role in the project
01				
02				
03				
04				

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