

We hereby provide information about our organisation with the intention to team up with other CCUS experts. We are interested in developing new project proposals to upcoming ACT Calls related to subjects listed below.

### 1. Name of Institution

Ege University

### 2. Specialities field within CCS

Carbon Capture processes, materials

#### **Previously funded project by TÜBİTAK**

**Preparation and characterization of silica –amin hybrid aerogels containing ionic liquid for the capture of carbondioxide (CO<sub>2</sub>)-** The main goal was to develop an adsorption based process using amine-based silica aerogels to capture CO<sub>2</sub> from post-combustion gases. For this purpose, highly porous silica aerogels were synthesized by following single-step sol-gel method using various precursor as amine source in different compositions. To enhance CO<sub>2</sub> capture performances of the prepared aerogels, amine functionalized ionic liquid was also used as sol agent due to high CO<sub>2</sub> selectivity and lower viscosity. The synergetic effects on the CO<sub>2</sub> capture performance of resultant materials were obtained by combining different sorption mechanisms either physisorption or chemisorption arising from the diversity in the molecular structures of IL and aerogels.

**Recent publication:** Garip M. Gizli N.,(2020). Ionic liquid containing amine-based silica aerogels for CO<sub>2</sub> capture by fixed bed adsorption. Journal of Molecular Liquids. 310. 113227. 10.1016/j.molliq.2020.113227.

### 3. Website

<https://avesis.ege.edu.tr/nilay.gizli>

### 4. Contact person:

Name: Nilay Gizli  
Position: Asst. Prof. Dr.  
Address: Ege University, Chemical Engineering Department  
e-mail: [nilay.gizli@ege.edu.tr](mailto:nilay.gizli@ege.edu.tr)  
Phone: +90 532 461 20 70

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