



## Current Initiatives on Carbon Dioxide Utilization (CDU) for Fuel Production

Guest Editors:

**Dr. Athanasios Tiliakos**

1. National R&D Institute for Cryogenic and Isotopic Technologies (ICSI), PO Raureni, PO Box 7, RO 240050 Ramnicu Valcea, Romania

2. National R&D Institute for Laser, Plasma and Radiation Physics (INFLPR), Ilfov, PO Box MG-36, RO 077125 Magurele, Romania

**Dr. Adriana Marinoiu**

National R&D Institute for Cryogenic and Isotopic Technologies (ICSI), PO Raureni, PO Box 7, RO 240050 Ramnicu Valcea, Romania

### Message from the Guest Editors

Following recent policy initiatives and in view of the larger picture unfolding at the global theater, this Special Issue aims to elucidate the main points, considerations, and dynamics that drive modern CDU initiatives, focusing on processes for converting CO<sub>2</sub> into fuel products and other industrial chemicals of value. The issue covers all studies related to CCUS technology with an emphasis on CDU for the industrial production of fuels and chemicals (e.g., blue hydrogen, concrete, formate and formic acid, methanol, petrochemicals, urea), CDU involving biological processes (e.g., biogas synthesis via bacterial fermentation, algae production for biofuel synthesis, and biomineralization), and processes that classify as power-to-liquid (e.g., methanol) or power-to-gas (e.g., hydrogen, methane) by utilizing surplus renewable electricity.

Deadline for manuscript submissions:

**31 March 2025**

