

CBE JU Info Day 2024

23 April, Brussels

#CBEInfoDay



Presenter : Prof. Yusuf Z. Menceloglu
Organization: Sabancı University, Türkiye

Description of the Organization

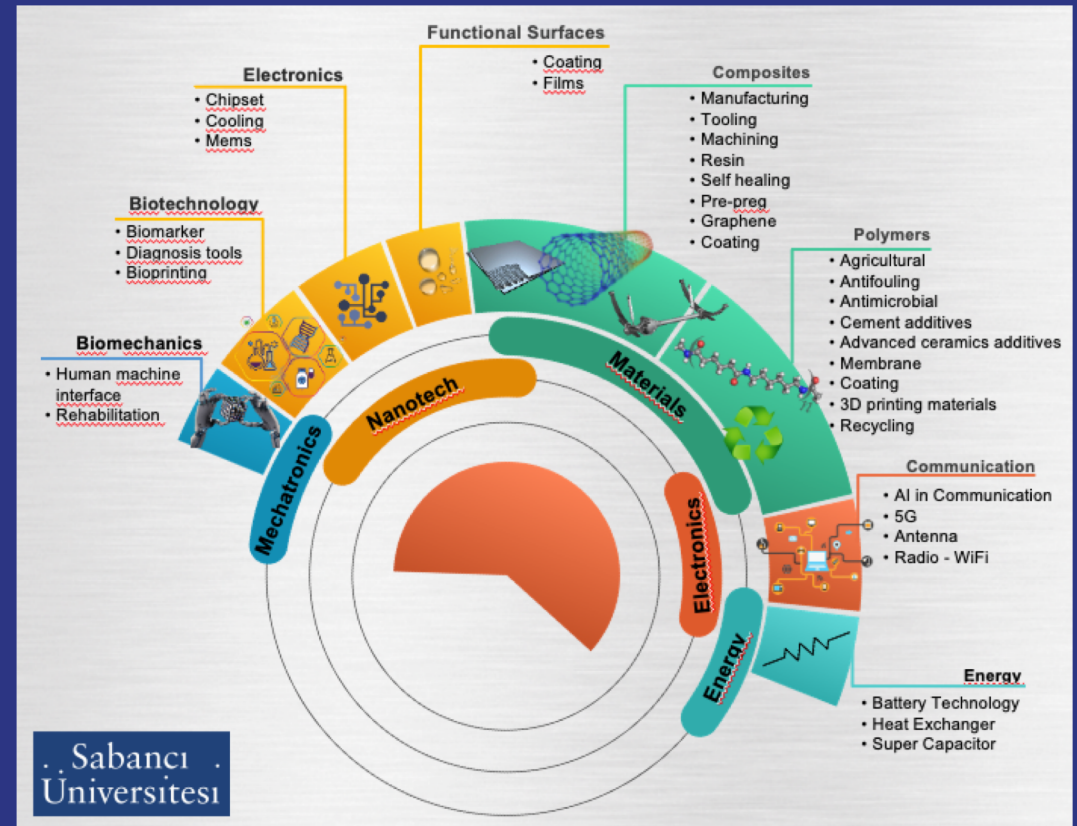
About Sabanci University

- Sabanci University (SU) is a young foundation university with state-of-the-art instructional and research facilities located in Istanbul. SU is recognized as one of the most innovative and research-oriented universities in Türkiye.
- The active research funding size is nearly €35 M with active 302 projects as of December 2022. 35% of the projects generated from European Commission programmes, %35 is from national foundation TUBITAK, 17% is from business enterprises, and 13% is from non-profit organizations and universities. SU is involved in European Commission Framework Programmes (FP) since 6th FP and continues its participation with Horizon Europe Programme.

Networks and Memberships



Main Technology Areas in SU



Research interests

- Emulsion Polymerization Reactions
- Bio based/biodegradable polymers and composites
 - Valorization of waste cellulose and chitosan
- Bio Based additives
 - Flame retardant, antimicrobial, corrosion, surfactants
- Chemical and Mechanical recycling of polymers
- Functional natural nanotubes for packaging and agriculture application
 - Ethylene scavenger, Antimicrobial, Phase Changing materials, O₂ scavenger,

Interested Call & Project Idea

HORIZON-JU-CBE-2024-IA-06 Innovative bio-based adhesives and binders for circular products meeting market requirements

Multifunctional Biobased Waterborne Binder for Coating Applications

OBJECTIVES:

- ✓ Will design and produce a product portfolio of bio-based adhesives and binders for the industry
- ✓ Synthesize bio-based binders via emulsion polymerization.
- ✓ Eliminate toxic biocides, used as antimicrobial agents in the paint industry, by replacing the binders with inherently antimicrobial bio-based polymers.
- ✓ Improve sustainability and circularity of the bio-based binders compared to existing market counterparts.
- ✓ Improve health and safety concerns via bio-based binder portfolio compared to existing market products
- ✓ Represent safer bio-based alternative binder solutions for human and environmental health that could match the application requirements regarding cost, performance, and shelf life.

Multifunctional Biobased Waterborne Binder for Coating Applications

EXPECTED RESULTS:

- ✓ Obtain antimicrobial bio-based binders without any need to biocides in paint formulations.
- ✓ Meet the requirements of binder properties such as physical, thermal, and mechanical properties.
- ✓ Fulfill the target binder application requirements in terms of technical performances, such as shelf life and durability, load-bearing, resistance to chemicals and temperature, and mechanical strength.
- ✓ Encounter the final product properties such as innocuous for human and environmental health, compatible with recycling streams, for improved circularity and sustainability.

USE CASES

- Architectural,
- Transportation,
- Industrial,
- Woodworking,
- Packaging,

Required Partners

No	Expertise
1	Pilot plant production
2	Formulators and applicators
3	Sustainability (EoL) & Life Cycle Analysis (LCA) & circularity-by-design
4	Testing & Standardization & Labeling
5	Biodegradability Validation
6	Technoeconomical & business model
7	Different end users
8	AI artificial Intelligence

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