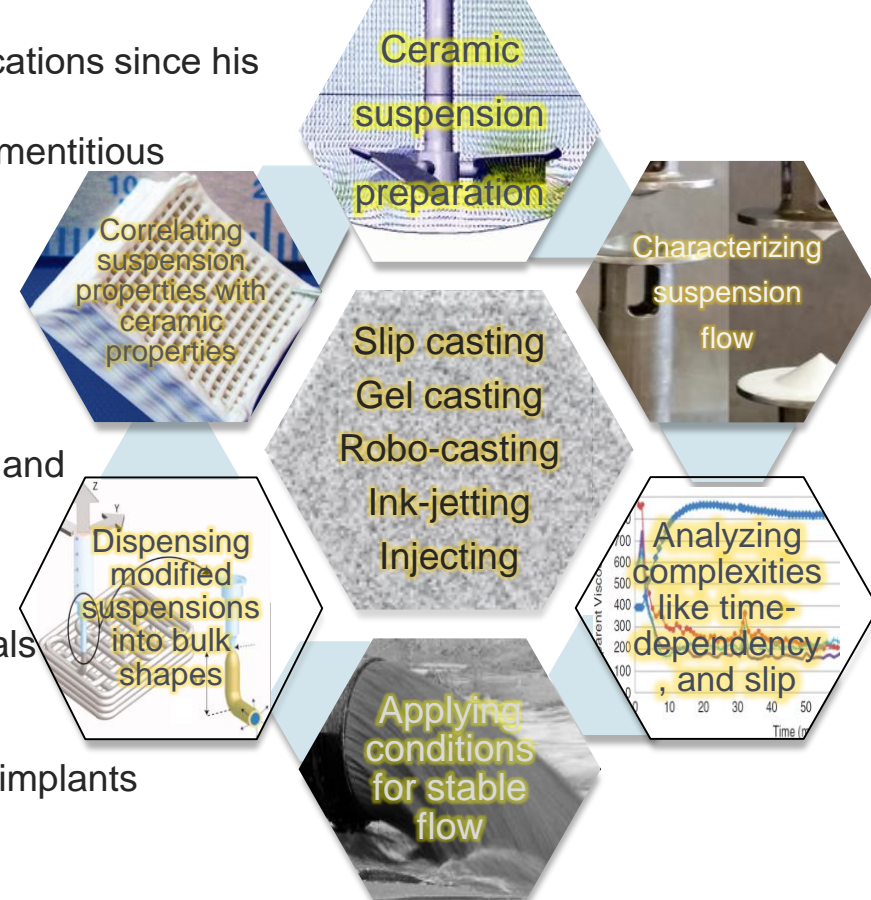


Dr. Erdem Şahin has studied ceramics for biomedical applications since his graduate studies, particularly their:

- biomimetic synthesis methods like hydrothermal and cementitious crystallization,
- crystallization kinetics and thermodynamics,
- suspension rheology and stabilization
- microarchitecture and porosity
- surface modification and bioactivity
- coating, injection, microextrusion processes
- and their composites with various biocompatible metals and polymers

His ongoing research projects include:

- Dental glass-ceramic synthesis from natural raw materials
- *In situ* modification of cement setting by preshearing to facilitate their robocasting
- Self-passivating Mg-phosphate cement coatings on Mg implants

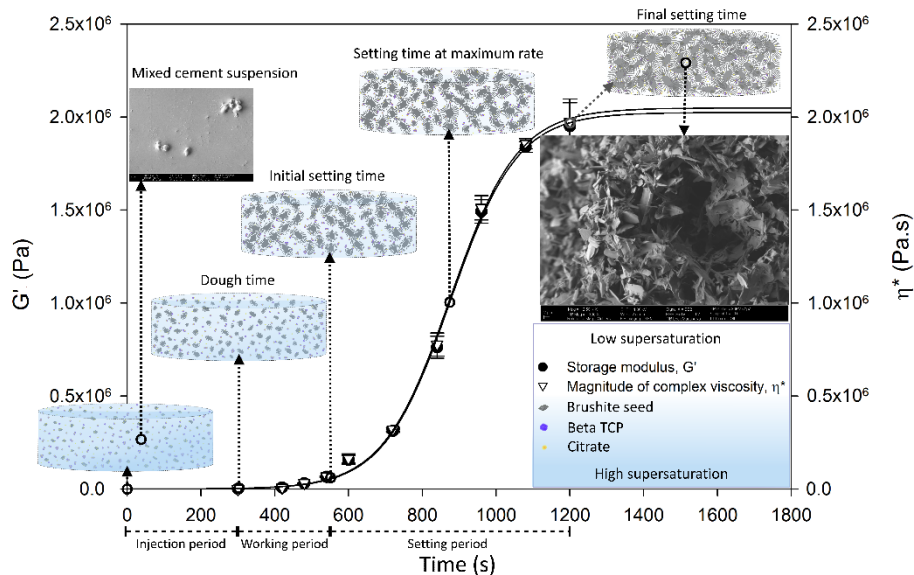


Optimization cycle for ceramic processing

His research interests are

Conversion of natural minerals like marble powder, quartz, feldspars into ceramic particles of industrial importance through environmentally and economically sustainable processes

Additive manufacturing of cements for biomedical and construction applications like macroporous tissue engineering scaffolds and insulating building materials
Novel processing methods for cement-based microcomposites



Viscoelastic transition in a cementitious suspension