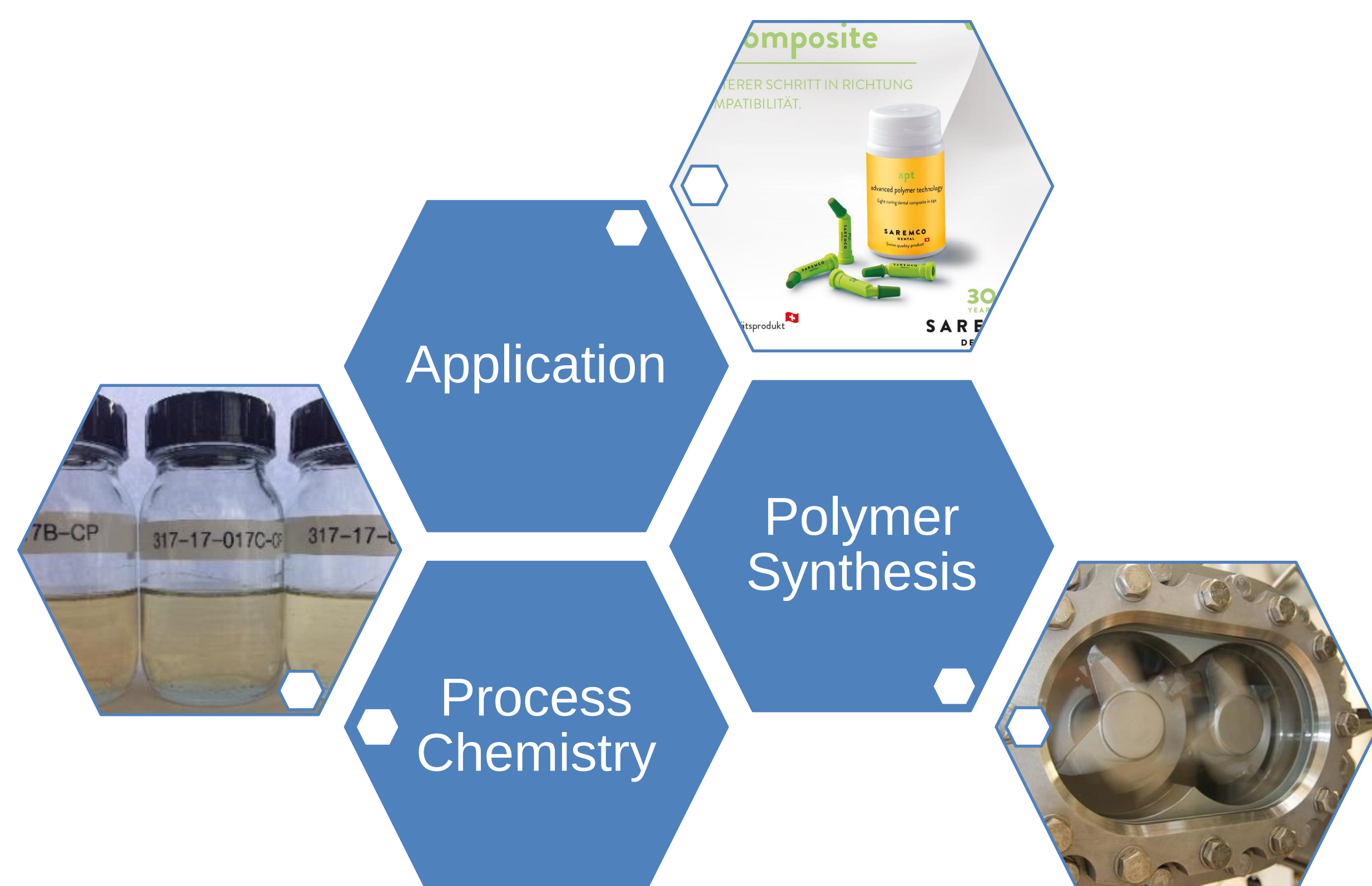


Prof. Roger Marti

roger.marti@hefr.ch / +41 (26) 429 6703

https://people.hes-so.ch/de/profile/571707621-roger-marti

orcid.org/0000-0001-6308-4908

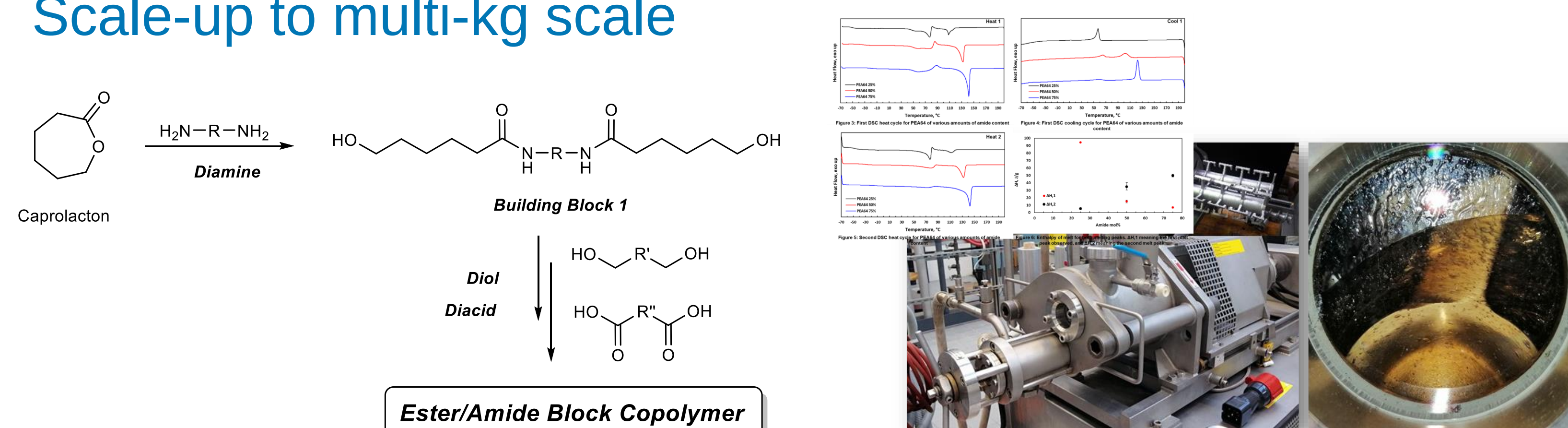
(Bio)Polymers at ChemTech

Competences in

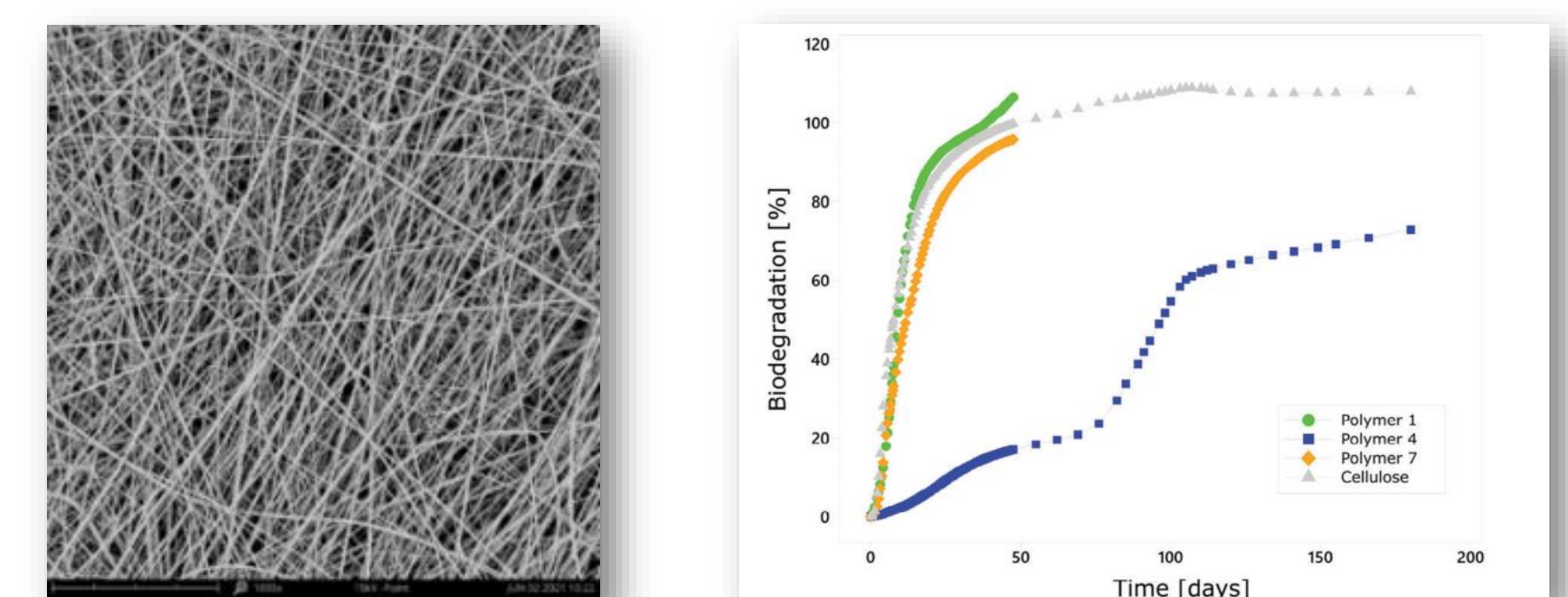
- Synthesis of novel bio-based monomers, additives
- Polymer Synthesis and Polymer Modifications
 - Process development and scale-up (kneader reactor)
 - Bio-based Polyester Amides for Packaging
 - Hydrogels for Tissue Engineering Applications
 - Keratin as Biopolymer
- Polymer Analysis & Characterization
 - GPC, DSC, Spectroscopy, Rheology
 - Mechanical properties & Surface characterization
- Collaboration with iRAP – plastic processing

Polyester Amides – Biobased, Biodegradable, Tuneable

- Modular approach gives full control over melting point, mechanical strength, chemical & thermal stability and barrier properties
- By using biobased monomers → fully biodegradable
- Scale-up to multi-kg scale

**PEA Applications**

- Flexible films for packaging
- Filler material by electrospinning for fully biodegradable masks
- Keratin-loaded tissues for wound-healing applications

**Sugar-based Plastic Platform**

- Use of lignocellulosic biomass for novel monomers & polymers
- Collaboration with Prof. Luterbacher, EPFL and Bloom Biorenewables

**Keratin**

- Chicken feathers are a waste product from the poultry industry consisting mainly of keratin, a valuable and underutilized biopolymer. We developing keratin as bio-active additive for new materials
- Scale-up to multi-100 g scale & development of novel materials

