



SCS  
Swiss Chemical  
Society

## SusChem Switzerland, Industrial Priorities 2023

### ▼ Waste Management

- solvent purification (membrane)
- mobile/modular waste treatment assets
- recycling technologies (membrane)
- energy efficient separation of complex waste
- direct cycle (from waste to raw materials – by-pass CO<sub>2</sub>)
- carbon capture where high concentration/purity
- C-N-P waste management
- waste treatment
  - enzymes
  - membranes
- waste valorization
  - waste network - secondary usage of waste within our ecosystem
- upcycling

### ▼ Reactions

- non-precious metal catalysis
- alternatives to metal catalysis
- cross-coupling for biomass
- oxidations - safe air/oxygen oxidations with non-precious/non-metal catalysis
- redox-neutral sequences
- green technologies (electrochemistry, photochemistry)
- solvent-free reactions - mechanochemistry
- chemistry in water
- robust chemistry
- characterization of reactions

### ▼ Raw Materials

- chemicals from CO<sub>2</sub>
- new reactions with existing feedstock
- generation of raws from toolbox of technologies (pyrolysis, gazification)
- suitable sources of biomass/renewable, recaptured or biodegradable materials
- green solvents / green building blocks (from renewable resources)
- specification of biomass
- database creation

### ▼ Processing

- reactor design
- chemical engineering
- manufacturing efficiency (operando methods...)
- training of young professionals

### ▼ Next generation of metrics

- continuous education on LCA
- sharing of data across industry
- data standardization
- digital twin for scenario assessment

### ▼ Others

- Biodegradable materials