

Institute of Environmental Technology
Chair of Solid Waste Management



Us

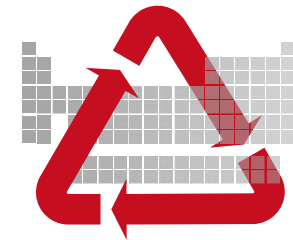


Brandenburger gate

TUB campus

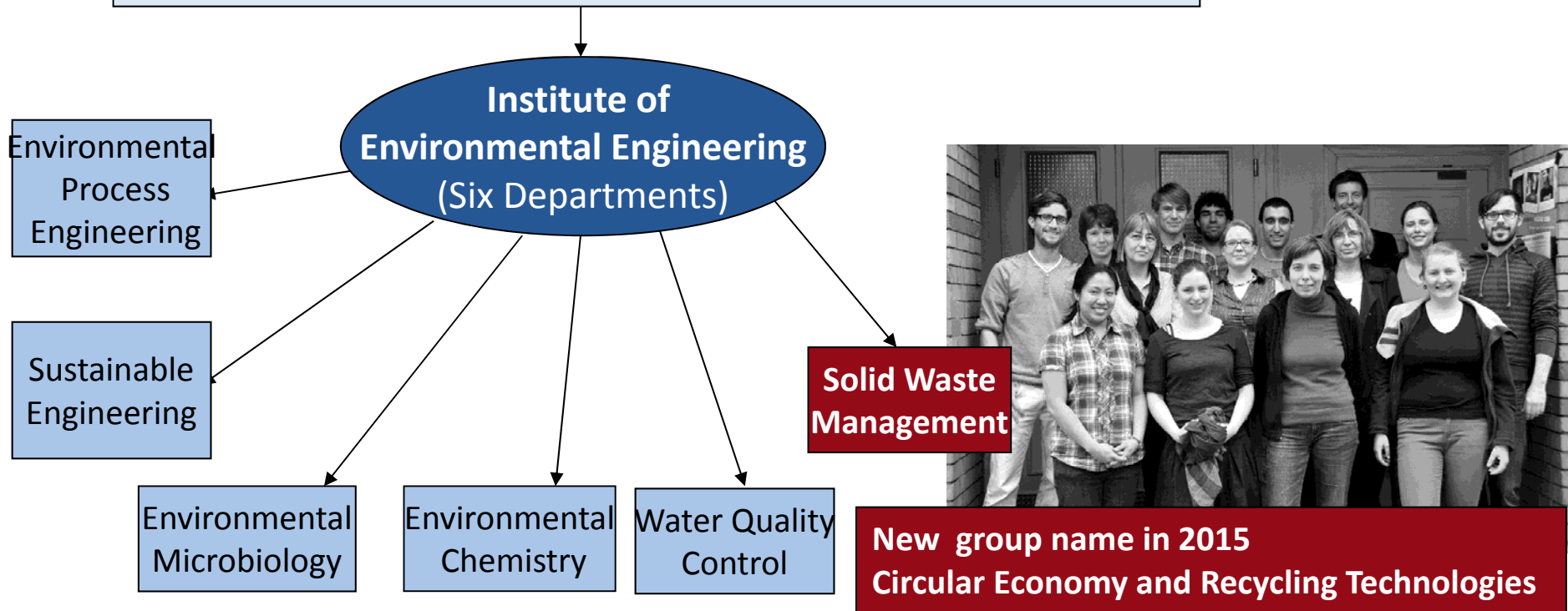
Introduction TUB - SWM

Prof. Dr.-Ing. Vera Susanne Rotter



Technical University Berlin (Higher education institute)
Seven Faculties,
30,000 students, 3,000 academic staff members, 320 professors)

Faculty III: Process Science and Engineering
(Seven Institutes)



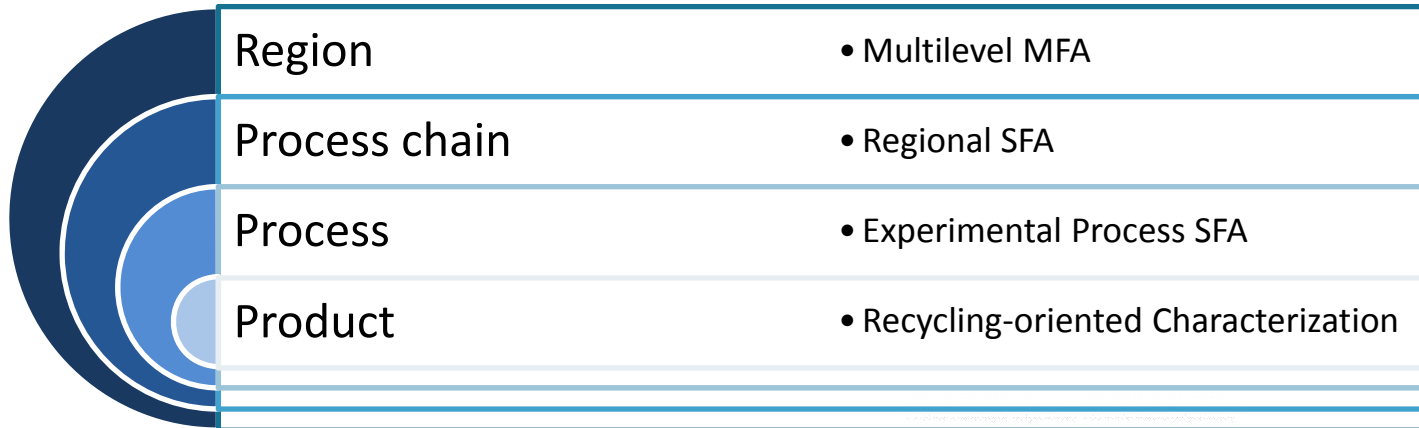


Toolbox to enable circular economy

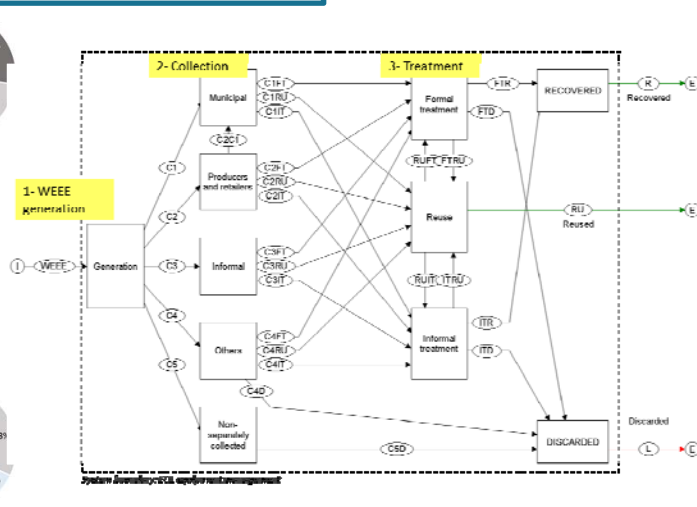
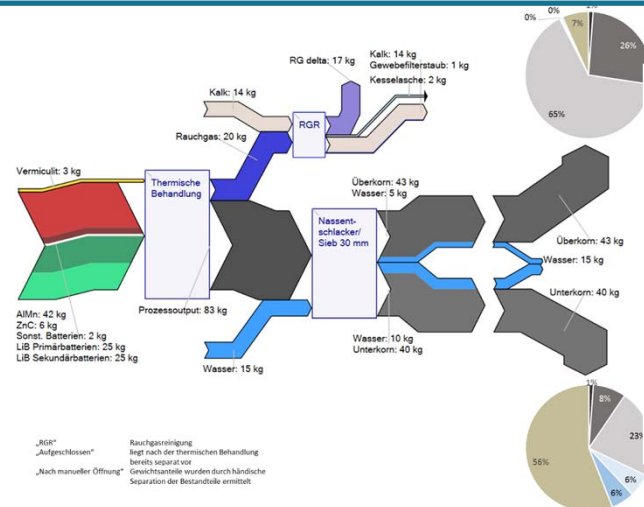
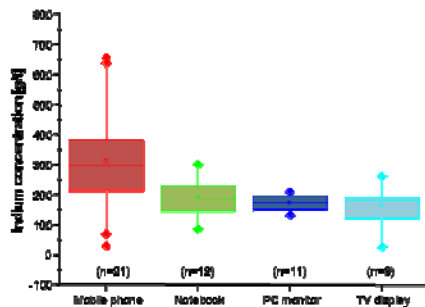


Goal: enable a circular economy

Tools:



Indium in LCD panels





Expertise in waste characterization



Waste composition, physical micro structure, liberation behavior

sorting analysis, shredding, milling, particle size analysis, magnetic properties



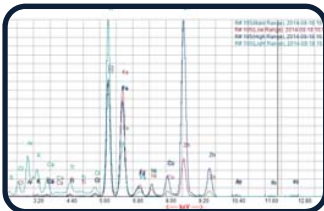
Thermal properties (H_v , ash content and composition, volatile matter)

ashing, immediate analysis, ultimate analysis (C, N, S, P), calorimetry



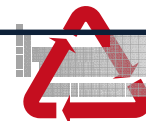
leaching behavior and acid digestion

batch and sequential elution, microwave assisted acid digestion



element quantification

metal detection ICP-OES, ICP-MS, F-AAS, GF-AAS, XRF





Selection of projects and activities relevant for ProSUM



UPgrade - Improved valorization and integrated recovery of trace metals in Waste Electrical and Electronic Equipment (WEEE).
Consortium with 13 industrial and academic partners
Role: Coordinator and WP lead on “recycling-oriented waste characterization”

www.upgrade.tu-berlin.de



RESUME - Resource efficiency through decentralized cooperation in recycling networks
Role: WP Lead in “information sources and information flows in WEEE recycling networks”

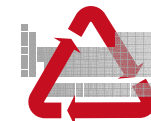






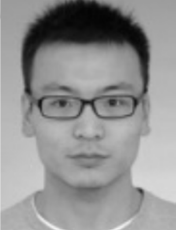
Batt2014+ - New recovery strategies for “low value batteries” (ZnC/AlMn, LIB) based on thermal pretreatment



Member of ESSEM COST Action ES140: European network for innovative recovery strategies of rare earth and other critical metals from electric and electronic waste (ReCreew) Starting 2015

http://www.cost.eu/COST_Actions/essem/Actions/ES140?



	Vera Susanne Rotter	Professor	Lead WP 4	Education and research in Recycling technologies	Coordination of TUB-SWM activities and WP4 activities
	Paul Mähltitz	Junior Researcher	WP 4 Batteries WP2&4 analytical issues	Processes assessment of thermal battery pretreatment	Waste flow study batteries, waste analytics
	Nathalie Korf	Junior Researcher	WP 4 ELV, WP 2&4 statistical issues	Characterization study of electronic components of new ELV	Waste flow study ELV, statistical aspects of waste characterization
	Max Schünemann	Junior Researcher (Starting April 2015)	WP 4 WEEE	Working for Remondis, disassembly studies with various German recycling plants	Waste flow study WEEE
	Alex Han (associated ProSUM member)	Climate-CiK PhD candidate	WP 4 PV (WP2&3 if useful)	MSc in global production engineering (PV specialization)	Waste study PV, (product stocks and flows)