

Project title / Field of expertise:

1. Genetically programmed specific stimuli-responsive and light emitting bacteria for biological sensors
2. Microbial bio-degradation of plastics/plasticizers

Adressed challenge/PPP:

BIOTECHNOLOGY

Adressed topic in working programme:

1. BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors (IA)
2. CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)

Thematic brokerage workshops

EU Brokerage Event on Kets in Horizon 2020

Strasbourg, 17th October 2017

Organization profile:



SABANCI UNIVERSITY NANOTECHNOLOGY RESEARCH AND APPLICATION CENTER



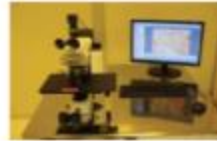
SUNUM established in 2011 with \$25M investment by Ministry of Development



MultiBeam SEM-FIB



High Resolul



encer



Optical Lithography



Electron Beam Lithography



Plasma Deposition



Confocal Microscope



ICP-MS



Wet processing

- Microorganism communities for plastics bio-degradation (RIA)
- Reprogrammed microorganisms for biological sensors (IA)

Project idea / expertise:

1. BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors (IA)

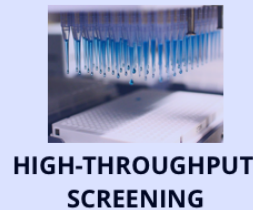
Proposal Idea: Developing Genetically Programmed Biological Sensors For High-Throughput Screening For Toxicity

- Drug monitoring
- Environmental monitoring
- Defense monitoring
- Food additives monitoring

IMPACT: INNOVATIVE BIOLOGICAL SENSORS AS SURROGATES TO HUMAN HEALTH RISKS ANALYSIS

- Genotoxicity
- Superoxide toxicity
- Metabolic toxicity
- Chemical toxicity
- Physical toxicity

ANALYSIS



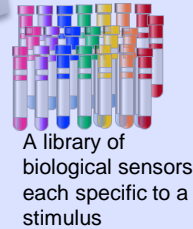
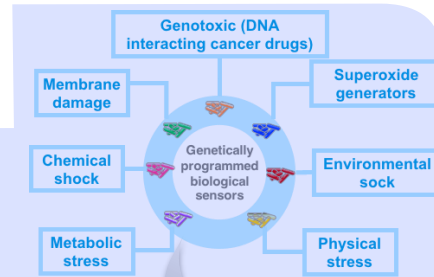
HIGH-THROUGHPUT SCREENING

TARGETS

- Preclinical Drugs
- Novel nanomaterials
- Defense agents
- Environmental agents

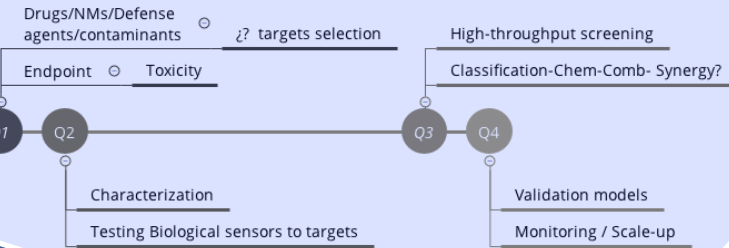
PARTNERS

- Partner 1: Genetic programming of biological sensors (RO)
- Partner 2: Characterization of biological sensors (Univ)
- Partner 3: Testing biological sensors against targets (RO)
- Partner 4: Validation models (Univ/RO)
- Partner 5: ? Monitoring new target responses (SME)
- Partner 6: ? Pharmaceutical/Defense/Food screening (IND)



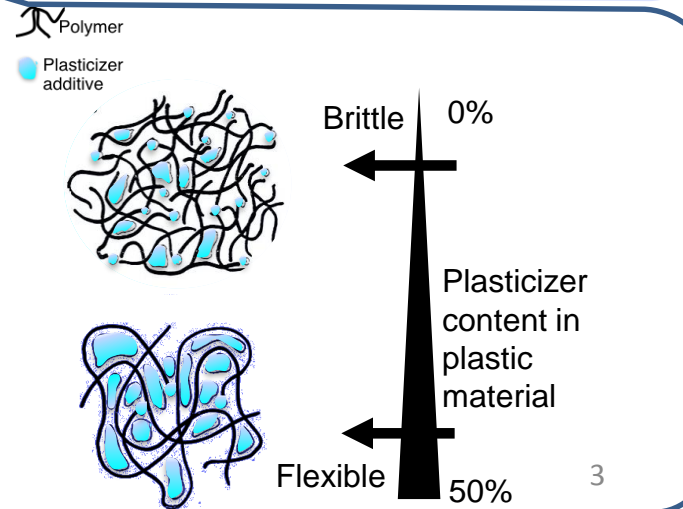
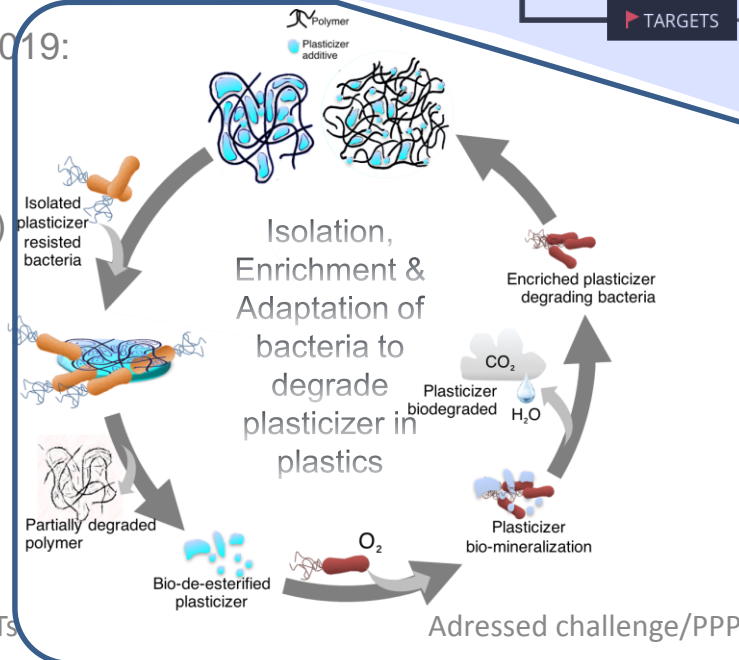
A library of biological sensors each specific to a stimulus

TARGETS



2. CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)

Microorganism communities for plastics bio-degradation (RIA)



Consortium:

Known partners / Competence offer

Name	Type	Country	Role in the project	
			BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors (IA)	CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)
Sabancı University	UNV	Turkey	Genetic programming of biological sensors	Isolation, enrichment and acclimatization of plasticizers degrading bacteria
Green Pharma	SME	France	Target selection and screening for biological sensors	

Partner search

Profile	Type	Country	Role in the project	
Search	RO	¿?	Characterizing biological sensors	Screening for plasticizer biodegraders
Search	RO/UNV	¿?	Testing biological sensors against targets	Metabolite characterization of plasticizer biodegradation- elucidation of pathways
Search	UNV	¿?	High-throughput screening using biological sensors	Improving efficiency of plasticizer biodegradation
Search	IND	¿?	¿?	Scaling up of biodegradation

Contact details

Contact person	
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