



# Biotechnology for Wastewater Treatment

acib offers advanced biotechnological solutions for wastewater treatments. Let's see what we can do for you!

## BACKGROUND

Water quality is of high importance, but respective goals can often not sufficiently be reached. Currently, (micro)plastics, hormones and toxic compounds are not adequately removed even in modern sewage plants. Also, wastewater treatment does not generate enough revenues, since it leaves potential resources untapped. Biotechnological advancements enable to improve the cleaning effect and to generate additional income.

## TECHNOLOGY

Hormones (e.g. oestrogen from contraceptives) mostly escape sewage plants and do not only harm fish and amphibians but can also contaminate drinking water. Enzymes developed by acib are able to degrade or cross-link (thereby precipitating) these hormones and remove them for good.

acib has also developed enzymes able to fully degrade synthetic plastics (e.g. PET, PU, etc.). We can immobilize these enzymes on bio-filters and use them to degrade even tiny plastic-particles in wastewater and thus stop the respective influx into our rivers and ultimately oceans.

acib develops innovative biological treatments using different selectors (e.g. anaerobic bioreactors) to improve sludge settling properties so that sewage plants can work on a reduced volume and a considerable cost benefit.

Bioleaching of sewage sludge can remove toxic heavy metals, but also enrich phosphor and nitrogen for a better use as fertilizers.

Microbial Electrosynthetic Systems (MES) uses microorganisms immobilized on suitable electrodes to reduce CO<sub>2</sub> to green methane, while simultaneously oxidating/removing organic pollutants. acib can also help to optimize biogas-plants for sewage sludge or its valorisation by microalgae.

## OFFER

Under protection of a CDA/NDA we provide you with professional strategies for biotechnological solutions for your specific application. IP developed in such a project would belong to you as our industrial partner or investor.

## EXPERTS

Prof. Dr Georg Gübitz  
Prof. Dr. Heribert Insam  
Dr. Doris Ribitsch  
Dr. Günther Bochmann  
Klemens Kremser

## AVAILABLE FOR

- Investments
- Joint Research Projects
- Contract Research

## DEVELOPMENT STATUS

Technology Readiness Level 2-6

## IPR

WO2013120933  
WO2013134801  
WO2015097104  
More will be generated for our industrial partner / investor

## KEYWORDS

- Biotechnology
- Biological Wastewater Treatment
- Microplastic degradation
- Enzymatic hormone-removal
- Biogas
- Biofuels
- Energy from Waste
- Microbial Electrosynthetic Systems (MES)

## CONTACT

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