

Laboratory of Microbial Ecology and Technology

Research topics and expertise

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*Laboratory of Microbial Ecology and Technology (LabMET)
Ghent University*

**Opportunities for cooperation between ChinAquaNet
and the Ghent University**

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LabMET mission statement

- « Study mixed **microbial communities** to better understand microbial ecological **processes** and use and/or **steer** the microbial community in **biotechnological** applications »

MICROBIAL ECOLOGY



STRATEGIC RESEARCH

Microbial communities as a multicellular organism
Quorum sensing
Electron shuttling
Horizontal gene transfer
Metabolomics



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APPLIED RESEARCH

Environmental biotechnology

Wastewater

Microbial fuel cells: bioelectrochemical conversion
Biodegradation of recalcitrant chemicals
Anaerobic treatment of wastewater
Minimizing waste sludge production
Novel nitrogen removal phenomena

Soil/Sediments

Bioprecipitation of catalytic particles on *Shewanella*
Anaerobic removal of organochlorine contaminants
Soil and river sludge clean-up
Pesticide degradation and ecotoxicology

Solid wastes

Biological solid waste treatment
De-icing

Buildings and structures

Biologically mediated CaCO₃ formation
Microbial induced corrosion

Air

Indoor air pollution
Biotrickling filtration

Gastrointestinal microbiology

Functional foods

Probiotics
Prebiotics
Bioactivation of food components
Rumen microbiology

Risk assessment

Environmental contaminants
Toxic metabolites from food processing

Medical research

Phage therapy
Cancer related research

Foodchain microbiology

Drinking water

New approaches towards hygienisation
Reclamation / reuse of water
Abatement of pathogens, i.e. *Legionella pneumophila*

Aquacultural systems

Microbial management of aquaculture systems
Water quality improvement

Habitat research

Epiphytes on grain
Closing the life cycle in space stations
Methane oxidation in the deep sea



TECHNOLOGY

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