Water & sanitation technology for developing countries

Research aim

To develop and implement appropriate and sustainable technologies for providing safe drinking water and adequate sanitation in the developing regions.

'Data, affordable and sustainable water supply and sanitation for all as our final goal'

Despite the significant push forward in this area in the past years under the impulse of the Millennium Development Goals, there are still over 700 million people worldwide relying on unsafe drinking water sources and nearly 2.5 billion people do not use an improved sanitation facility. Water will therefore remain high on the agenda in the next decades. Innovation through research and innovation uptake through education are at the core of CES&T’s activities in this domain.
Research highlights

Areas of expertise
▶ Our multidisciplinary team of researchers shares expertise on biological and physicochemical water and wastewater treatment, waterless sanitation, resource recovery, ecotechnologies, modelling and simulation, and benchmarking of different technologies.

Sample projects
▶ Development of novel solar-driven drinking water treatment systems (partner country: South-Africa)
  Aims both at simple, as well as more advanced, methods of purifying polluted streams for potable water purposes. This includes among others the water pyramid producing potable water via evaporation, and solar-driven membrane systems.

▶ Optimisation of ecotechnologies for wastewater treatment (partner countries: Vietnam, Ecuador, Kenya, Ethiopia)
  Aims at making constructed wetlands and waste stabilization ponds more efficient, more compact and more reliable. We work with model-based approaches like CFD and ASM-based models as well as with pilot experiments on aeration, alternative filling materials...

▶ Impact and abatement of arsenic pollution in drinking water and paddy fields (partner country: Bangladesh, India, Bolivia)
  Aims at assessing the distribution and environmental and human health impact of arsenic pollution. We also test and develop technologies to remove arsenic from groundwater (e.g. iron-based filter materials).

Contact & info
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