

Microbiology and Environmental Biotechnology Research Group (MEBRG)



The Microbiology and Environmental Biotechnology Research Group forms part of the Soil Science Programme at ARC-SCW. The research group utilizes both fundamental as well as applied microbiology and biotechnology approaches to address soil, climate and water related problems in a sustainable and eco-friendly manner.

FOCUS AREAS

Renewable energy generation

- Maximisation of biogas production from organic waste streams
- Optimisation of cold-season biogas production
- Integration of bioaugmentation and amendment with nanoparticles to improve biogas yield

Nanotechnology

- Green synthesis of nanoparticles
- Applications of nanoparticles as nanofertilizers in agroecosystems
- Utilization of nanoparticles to facilitate anaerobic digestion

Medicinal plants

- Unravelling the relationship between micro-organisms and certain medicinal plants
- Conservation of medicinal plants
- Applications of endophytes associated with medicinal plants
- Metabolite screening from endophytes

Aquatic pollutant monitoring

- Collation of contaminants of emerging concern (CECs) in SA waterways
- Identification of hotspots of CECs in SA waterways
- Generation of an information hub for CECs



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