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Using AI to improve our understanding of waste-water processing

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Waste-water treatment is an energy intensive process leading to many environmental concerns. It is very important to remove chemical compounds such as oestrogen from the effluent before it can be safely released into the environment. With increased restrictions on the amount of certain chemical compounds which can be tolerated in the released water there is a need to identify how to efficiently remove enough of these compounds. Compounds are removed by bacteria which exist in the processing system. Current approaches to identifying the best bacteria are based around lab-based experiments on small volumes of waste-water or computer simulations of small volumes of bacteria. However, there is a disconnect between these experiments and what happens in a full-scale wastewater treatment plant. In this talk I shall explain how we're using AI to scale up and make more realistic simulations of bacterial systems to meet new effluent restrictions.

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