Accumulate microorganisms by the power of electricity

Staff : Graduate School of Environmental Studies
○ Assist. Professor Masaki UMETSU (masaki.umetsu.d7@tohoku.ac.jp)
Professor Masanobu KAMITAKAHARA (masanobu.kamitakahara.a6@tohoku.ac.jp)

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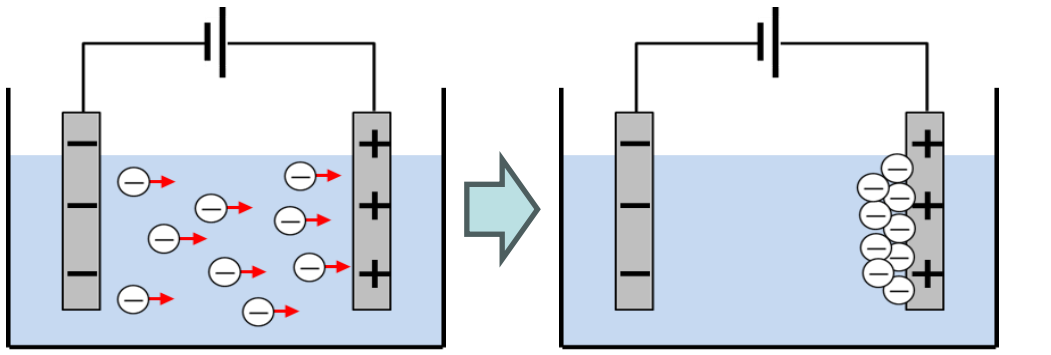
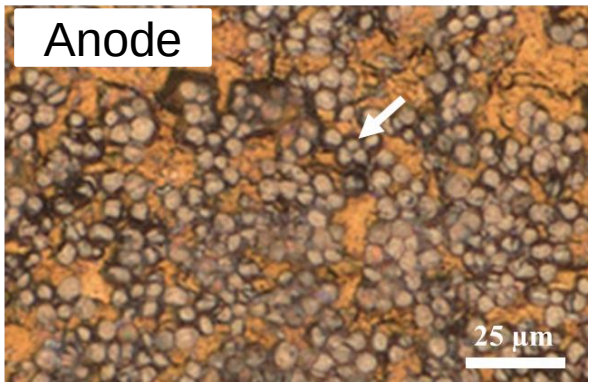
In bioreactors that utilize the function of microorganisms (such as fermentation and wastewater treatment), it is very important to accumulate the target microorganisms on the carrier. In this class, we aim to accumulate microorganisms on electrodes by applying "electrophoretic deposition", which is used for the accumulation and coating of ceramic particles. In addition, by comparing microorganisms with ceramic particles of the same size, participants will learn the similarities and differences between "microbial cells" and "inorganic particles" from an electrochemical point of view.



Electrophoretic deposition of fine particles and microorganisms onto electrodes.



Microorganisms accumulated on the anode. (Arrow : Yeast)