

Multifunctional ceramic membranes for water reuse

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Advances in ceramic materials engineering enable the development of membranes exhibiting high thermal, mechanical and chemical stability, with tailored microstructure and porosity, with possible complex shapes and coupled functionalities like catalytic activity. Multifunctional ceramic membranes for water reuse are open investigation topics for basic and applied research projects. Direct coupling of membrane separation and advanced oxidation processes like heterogeneous catalytic ozonation or photocatalysis is a promising domain for integrated processes of water treatment. Examples will be given to illustrate how such strategies could be implemented.