グローバル COE 物質科学イノベーション講演会

演 題：**Preparation and Application of Composite Materials for Capacitive Deionization**

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要旨：

The amount of available water is being reduced rapidly due to water pollution. Conventional desalination processes are complex and expensive. Some efforts for desalination processes have focused on developing novel electrode materials. Among these new materials, the carbon aerogel with a high surface area and low electrical resistivity has shown good electrosorptive properties. But, the problem of the carbon aerogel is its high cost of the electrodes so that it is required to produce aerogel form electrode resorcinol. With high surface area of activated carbon, its electrode could be useful for developing electrosorption desalination and ion removal rate evaluated by an electrosorption assay. Electrosorption is generally defined as potential-induced adsorption on the surface of charged electrodes. Specifically, it forces charged ions in electrolyte solution to move toward oppositely charged electrodes by imposing an electric field. In this study, the electrosorptive deionization electrodes are compared with porous carbon electrode and porous carbon electrode coated titanium oxide.

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