Membrane Capacitive Deionization (MCDI) is a promising desalination technique. We designed a carbon structures for MCDI electrodes by integrating the three-dimensional graphene networks and porous carbon rods derived from metal-organic frameworks. The novel carbon structure exhibits an enhanced desalination performance due to the hierarchical porous structure and good electrical conductivity.

---

Finite element model developed from MDCT images acquired with at least 75% reduced radiation dose, compared to standard radiation dose, reliably predicts vertebral bone fractures. This study allowed us to develop a routine MDCT-based patient monitoring protocol for osteoporotic fracture risk without the effective radiation dose reaching unsafe levels.

---

Researchers have developed a way to achieve an ultra-high bioelectric signal from human embryonic stem cells using direct current-voltage measurements facilitated by few-layered 2D molybdenum disulfide sheets. This method, which produces cell signals 2 orders of magnitude higher than previous electrical-based detection methods, paves the way for the development of a broadly applicable, fast, and damage-free stem cell detection method.

---

"Contact us at library@sutd.edu.sg
An SUTD Library Service ©2018"