

Chemically modified carbon materials for energy related applications

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Whilst the overuse of carbon-based fossil fuels has created the current environmental problems, the abundance of carbon allotropes and its rich chemistry allows it to be easily tuned to a wide variety of applications. Today, proton exchange fuel cells make use of carbon in gas diffusion layers, and the catalyst support for the active metal at the catalyst site. Absorbent materials for hydrogen storage take advantage of the very high surface area of activated carbon, and the rich chemistry of carbon to form highly porous organic-metal frameworks. This talk will summarise my research this year in various applications of chemically modified carbons as related to the goals of I2CNER in the Hydrogen Storage and the Electrochemical Energy Conversion divisions.

