

AVVISO DI SEMINARIO

Prof. Shelley Minteer

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Lunedì 10 Settembre, ore 12:00

Nell' Aula seminari del Dipartimento di Scienze e Tecnologie
Chimiche

Terrà un seminario dal titolo:

**Enzymatic Bioelectrocatalysis: From Metabolic
Pathways to Metabolons**

Proponente; Prof. Francesco Ricci

Abstract:

Oxidoreductase enzymes have been employed for almost 5 decades in biosensors and for energy conversion in the form of biofuel cells. However, most enzymatic bioelectrodes in the literature utilize complex biofuels (e.g. glucose), but only partially oxidize the complex biofuel via the use of a single enzyme (i.e. glucose oxidase or glucose dehydrogenase). This presentation will detail the use of enzyme cascades at bioanodes for deep to complete oxidation of substrates to improve performance (current density and power density), but will focus on the importance of forming metabolons for substrate channeling in multi-enzyme cascades. These enzyme cascade will include natural metabolons (i.e. the Krebs's cycle) and artificial metabolons utilizing DNA as a scaffold. It will discuss the importance of structural orientation of enzymes and enzyme complexation in enzymatic cascades for efficient bioelectrocatalysis.