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Sommario/riassunto	The successful commercialization of advanced energy devices, including fuel cells and solar cells (e.g., dye-sensitized solar cells) is somewhat dependent on the cost, activity and durability of the electrocatalysts. Nowadays, precious metal electrodes are the most widely used. Accordingly, the manufacturing costs are relatively high, which constrains wide application. Recently, some reports have introduced some promising non-precious electrocatalysts to be exploited in both oxidation and reduction reactions. It was concluded that immobilization of the functional material on a proper support can distinctly improve catalytic activity. Moreover, due to the synergetic effect, metallic alloy nanoparticles show very good electrocatalytic activity in this regard. This Special Issue aims to cover the most recent progress and the advances in the field of the immobilized non-precious electrocatalysts. This includes, but is not limited to, non-precious electrocatalysts for alcohol (methanol, ethanol, etc.) oxidation, oxygen reduction reaction and electrolyte reduction in dye-sensitized solar cells.