Record Nr. UNINA9910298575403321 Advanced Electrocatalysts for Low-Temperature Fuel Cells // edited by **Titolo** Francisco Javier Rodríguez-Varela, Teko W. Napporn Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2018 **ISBN** 3-319-99019-5 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (xix, 302 pages) Disciplina 621.312429 Soggetti Electrochemistry Materials science Force and energy Renewable energy resources Catalysis **Energy Materials** Renewable and Green Energy Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Chapter 1. Introduction. Low-Temperature Fuel cells -- Chapter 2. Nota di contenuto Recent advances on electrocatalysts for PEM and AEM Fuel Cells --Chapter 3. Electro-catalysis of alternative liquid fuels for PEM Direct Oxidation Fuel Cells -- Chapter 4. Overview of Direct Liquid Oxidation Fuel Cells and its Application as Micro-Fuel Cells -- Chapter 5. Application of novel carbonaceous materials as support for Fuel Cell electrocatalysts -- Chapter 6. Progress on the functionalization of carbon nanostructures for fuel cell electrocatalysts -- Chapter 7. Nonnoble metal electrocatalysts for the Oxygen Reduction Reaction in fuel cells. Sommario/riassunto This book introduces the reader to the state of the art in nanostructured anode and cathode electrocatalysts for lowtemperature acid and alkaline fuel cells. It explores the electrocatalysis of anode (oxidation of organic molecules) and cathode (oxygen reduction) reactions. It also offers insights into metal-carbon interactions, correlating them with the catalytic activity of the

electrochemical reactions. The book explores the electrocatalytic behaviour of materials based on noble metals and their alloys, as well as metal-metal oxides and metal-free nanostructures. It also discusses the surface and structural modification of carbon supports to enhance the catalytic activity of electrocatalysts for fuel-cell reactions.