Special Issue

Metal–Organic Framework Thin Films as Advanced Chemical Sensing Materials

Message from the Guest Editor

Nanoporous metal organic framework (MOF) materials have been widely investigated as chemical sensing materials due to their periodic porosity, tunable chemical functionalities such as Lewis acid/base sites, and potential conductivity or luminescence. However, most sensor devices require the integration of the sensing material as a thin film, which presents a significant challenge for MOF materials. In this Special Issue, we plan to outline the background on MOFs as excellent candidates for chemical sensing (i.e., VOCs, gases, ions, pH) as well as different techniques for MOF thin film growth and the challenges associated with each method. Examples of different MOF thin film chemical sensor devices will be accepted as well as their various transduction mechanisms: electrical, electrochemical, optical, and acoustic. The Special Issue will present an outlook on potential future innovations for MOF thin film chemical sensors as well as and the remaining challenges associated with real-world implementation.

Guest Editor

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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