MOFs and electronic devices: a good match?

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MOFs are typically highlighted for their potential application in gas storage, separations and catalysis. In contrast, the unique prospects these porous and crystalline materials offer for application in electronic devices, although actively developed, are often underexposed. This talk highlights the research aimed at the implementation of MOFs in solid-state microelectronics. Manufacturing these devices will critically depend on the compatibility of MOFs with existing fabrication protocols and predominant standards. Therefore, it is important to focus in parallel on a fundamental understanding of the distinguishing properties of MOFs and eliminating fabrication-related obstacles for integration. The latter implies a shift from the microcrystalline powder synthesis in chemistry labs, towards film deposition and processing in a cleanroom environment.