



Two-Dimensional Organic Semiconductor-incorporated Perovskite (OSiP)

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■ Two-dimensional (2D) organic-inorganic hybrid perovskites have garnered considerable attention due to their rich chemistry and intriguing physical properties. Hybridizing organic functional group into the 2D lattice opens many exciting new opportunities.

■ In this talk, I will provide a brief overview of our recent efforts in the development of 2D Organic Semiconductor-incorporated Perovskite (OSiP) materials. These include the molecular design and self-assembly of novel hybrid structures, precise control over crystal growth and nanoscale architectures, fabrication of both lateral and vertical heterostructures, and exploration of their unique optical, electronic, thermal, and ferroelectric properties. I will also discuss their promising applications in photovoltaic, light-emitting diode (LED), and laser devices.

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