

Atmospheric-pressure Microplasmas:
a Versatile Source for Material Synthesis and Catalysis

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Microplasmas are a special class of electrical discharges formed in geometries where at least one dimension is less than 1 mm. As a result of their unique scaling, microplasmas operate stably at atmospheric pressure and contain large concentrations of energetic electrons (1–10 eV). These properties are attractive for a range of nanomaterials synthesis and nanostructure engineering. In this presentation, I will discuss these topics in detail, highlighting the advantages of microplasma-based systems for the synthesis of well-defined nanomaterials and catalysis. These experiments will aid in the rational design and fabrication of nanomaterials and may also have significant impact in emerging applications.